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TEXTILE ORGANON

Volume 59, No. 6 ☐ June 1988 A publication of *Textile Economics Bureau, Inc.*

# WORLDWIDE MAN-MADE FIBER SURVEY

**HIGHLIGHTS:**

- Worldwide Survey -
  - Fiber Demand
  - Production and Producing Capacities
  - Utilization Rates
  - Directory of Producers
  - Ownership Listing
  - Olefin Fiber Production

Featuring....

Our annual survey of worldwide man-made fiber production and planned capacity, with a worldwide directory of man-made fiber producers.

Worldwide data in this issue are reported in thousand metric tons. The production and capacity tables will be published again in the July issue in millions of pounds. Country data on available supply will be published in the ***Textile Organon*** as soon as the information is available.

Data for previous years for most of the tables in this issue can be found in the ***Textile Organon Base Book*** (1962) and subsequent June issues of the ***Textile Organon***. The cotton demand figures shown in the table below are based on worldwide consumption rather than production, to eliminate problems from wide swings in cotton inventories.

**TABLE 1:**
**WORLDWIDE DEMAND FOR CERTAIN FIBERS**
**THOUSAND METRIC TONS**

| TYPE OF FIBER | 1983 | 1984 | 1985 | 1986 | 1987 | % CHANGE 1987 / 1986 |
|---|---|---|---|---|---|---|
| ***CELLULOSIC FIBERS*** | | | | | | |
| YARN+MONOFILAMENTS | 940 | 937 | 922 | 937 | 926 | *-1.2* |
| STAPLE+TOW | 1989 | 2065 | 2006 | 1902 | 1907 | *+0.3* |
| **TOTAL CELLULOSIC** | **2929** | **3002** | **2928** | **2839** | **2833** | ***-0.2*** |
| ***NONCELLULOSIC FIBERS*** | | | | | | |
| YARN+MONOFILAMENTS | 4867 | 5225 | 5579 | 5752 | 6095 | *+6.0* |
| STAPLE+TOW | 6209 | 6625 | 6921 | 7241 | 7663 | *+5.8* |
| **TOTAL NONCELLULOSIC** | **11076** | **11850** | **12500** | **12993** | **13758** | ***+5.9*** |
| **TOTAL MAN-MADE** [a] | **14005** | **14852** | **15428** | **15832** | **16591** | ***+4.8*** |
| *% of World Total* | *46%* | *47%* | *46%* | *44%* | *45%* | |
| ***NATURAL FIBERS*** | | | | | | |
| RAW COTTON [b] | 15062 | 15272 | 16578 | 18250 | 18122 | *-0.7* |
| RAW WOOL [c] | 1639 | 1677 | 1678 | 1712 | 1753 | *+2.4* |
| RAW SILK [d] | 55 | 56 | 59 | 63 | 63 | *0* |
| **TOTAL NATURAL** | **16756** | **17005** | **18315** | **20025** | **19938** | ***-0.4*** |
| *% of World Total* | *54%* | *53%* | *54%* | *56%* | *55%* | |
| **WORLD TOTAL** | **30761** | **31857** | **33743** | **35857** | **36529** | ***+1.9*** |
| *World Total %* | *100%* | *100%* | *100%* | *100%* | *100%* | |

The silk and man-made fiber data are on a calendar year basis, while the figures for cotton and wool are on a seasonal basis.

a. Man-made fiber data are from tables 2 and 3. Glass fiber, olefin and acetate cigarette tow production are not included.
b. International Cotton Advisory Committee. New series based on cotton consumption data.
c. Commonwealth Secretariat data, on a clean wool basis. See also the December 1987 *Textile Organon*, page 277.
d. International Silk Association; Food and Agriculture Organization of the United Nations.

June 1988

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A Monthly Review

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**TEXTILE ECONOMICS BUREAU, INC.**
**President**
*Rosemarie D. Frick*

**Editor, Textile Organon**
*David S. Morey*

**Publishing Headquarters:**
Textile Economics Bureau, Inc.
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# DATAGRAM

## WORLDWIDE TOTAL MAN-MADE FIBER PRODUCTION INCREASED 759 THOUSAND METRIC TONS IN 1987

Total worldwide man-made fiber production, except olefin, increased 759 thousand metric tons or 4.8% in 1987 to reach a level of 16,591 thousand metric tons. In 1987 production was 2,586 thousand metric tons or 18.5% above the quantity produced in 1983. Total U.S. man-made fiber production increased 5.3% in 1987 and 2.1% since 1983. Since 1983, the U.S. share of world production fell from 23.6% to 20.3%.

## WORLDWIDE NONCELLULOSIC FIBER PRODUCTION INCREASED 5.9% IN 1987

Noncellulosic fiber production increased 765 thousand metric tons worldwide in 1987 to reach 13,758 metric tons. The total quantity represents a gain of 5.9% for the year and of 24.2% since 1983. Since 1983, U.S. production of noncellulosic fiber increased 2.9%.

## CELLULOSIC FIBER PRODUCTION VIRTUALLY UNCHANGED WORLDWIDE IN 1987

Worldwide production of cellulosic fiber decreased 6 thousand metric tons or 0.2% in 1987 to reach 2,833 thousand metric tons. In the same period, U.S. production decreased 2.2%. Since 1983, worldwide cellulosic fiber production has declined 3.3%.

## OTHER ASIA COUNTRIES SHOW A BIG GAIN IN NONCELLULOSIC FIBER PRODUCTION

In 1987 the Other Asia countries increased noncellulosic fiber production by 312 thousand metric tons or 11.5%. China, PRC increased production by 109 thousand metric tons or 13.6%. On a percent basis, the third fastest growing area was East Europe, with a gain of 6.5% or 104 thousand metric tons.

## WORLDWIDE POLYESTER PRODUCTION GREW 8.0% IN 1987

Production of total polyester grew 552 thousand metric tons, or 8.0% worldwide in 1987 to reach a total of 7,464 thousand metric tons. Within this total, polyester staple production grew 309 thousand metric tons or 7.7% and polyester filament grew 243 thousand metric tons or 8.4%. Other fiber types that showed gains on a percent basis include nylon staple up 5.9%, nylon filament up 3.5% and acrylic+modacrylic up 2.8%.

## PRODUCING CAPACITY OF NONCELLULOSIC FIBER INCREASED 0.8% WORLDWIDE IN 1987 AS CELLULOSIC CAPACITY DECREASED 4.3%

Worldwide noncellulosic fiber capacity increased by 0.9% in 1987 and cellulosic capacity decreased 4.3%. However, planned capacity additions between March 1988 and December 1989 will boost worldwide noncellulosic capacity by 1,290 thousand metric tons or 7.7%. The Other Asia countries will increase capacity by 762 thousand metric tons or 21.0% and China, PRC will increase capacity by 191 thousand metric tons or 17.9%.

## THE WORLDWIDE CAPACITY UTILIZATION RATE INCREASED TO 81.1% FOR YARN AND TO 83.6% FOR STAPLE+TOW

The 1987 utilization rate, which is 1987 production divided by the 1987 average producing capacity, grew to 81.1% for yarn and to 83.6% for staple. The three products with the highest utilization rates worldwide were acrylic+ modacrylic staple at 86.3%, polyester staple at 83.5% and polyester filament at 82.1%.

## TABLE 2:
## WORLDWIDE NONCELLULOSIC FIBER PRODUCTION & PRODUCING CAPACITY BY COUNTRY EXCEPT OLEFIN
### THOUSAND METRIC TONS

| COUNTRY | ACTUAL PRODUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1983 | | | 1984 | | | 1985 | | |
| | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| ***WESTERN EUROPE*** | | | | | | | | | |
| AUSTRIA | 0 | 18.0 | 18.0 | 0 | 18.1 | 18.1 | 0 | 18.1 | 18.1 |
| BENELUX[a] | 68.0 | 21.6 | 89.6 | 76.1 | 24.1 | 100.2 | 80.5 | 30.1 | 110.6 |
| FINLAND | 0.5 | 0 | 0.5 | 0.5 | 0 | 0.5 | 0.5 | 0 | 0.5 |
| FRANCE | 63.2 | 129.0 | 192.2 | 60.2 | 131.5 | 191.7 | 60.7 | 122.0 | 182.7 |
| GERMANY, FED. REP. | 339.2 | 393.0 | 732.2 | 352.0 | 379.0 | 731.0 | 360.0 | 402.0 | 762.0 |
| GREECE | 9.0 | 10.0 | 19.0 | 9.0 | 10.0 | 19.0 | 9.0 | 10.0 | 19.0 |
| IRELAND | 11.0 | 34.0 | 45.0 | 11.5 | 38.7 | 50.2 | 11.5 | 45.3 | 56.8 |
| ITALY/MALTA | 142.5 | 316.1 | 458.6 | 154.0 | 373.8 | 527.8 | 171.6 | 392.0 | 563.6 |
| PORTUGAL | 1.0 | 42.0 | 43.0 | 1.0 | 45.0 | 46.0 | 1.0 | 51.0 | 52.0 |
| SPAIN | 74.6 | 173.2 | 247.8 | 77.6 | 182.8 | 260.4 | 85.0 | 189.9 | 274.9 |
| SWITZERLAND | 60.2 | 28.0 | 88.2 | 71.7 | 27.8 | 99.5 | 73.1 | 26.6 | 99.7 |
| TURKEY | 37.0 | 102.5 | 139.5 | 48.5 | 112.7 | 161.2 | 52.0 | 134.0 | 186.0 |
| UNITED KINGDOM | 70.8 | 153.0 | 223.8 | 80.0 | 160.0 | 240.0 | 84.7 | 158.0 | 242.7 |
| **TOTAL WESTERN EUROPE** | **877.0** | **1420.4** | **2297.4** | **942.1** | **1503.5** | **2445.6** | **989.6** | **1579.0** | **2568.6** |
| ***EASTERN EUROPE*** | | | | | | | | | |
| ALBANIA | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0.4 |
| BULGARIA | 25.6 | 37.0 | 62.6 | 24.9 | 42.8 | 67.7 | 28.0 | 42.8 | 70.8 |
| CZECHOSLOVAKIA | 64.5 | 34.9 | 99.4 | 69.9 | 37.1 | 107.0 | 76.0 | 38.8 | 114.8 |
| GERMANY, DEM .REP. | 65.0 | 76.2 | 141.2 | 65.0 | 78.9 | 143.9 | 65.0 | 80.8 | 145.8 |
| HUNGARY | 8.2 | 12.4 | 20.6 | 8.6 | 12.6 | 21.2 | 9.0 | 12.7 | 21.7 |
| POLAND | 79.1 | 62.2 | 141.3 | 83.3 | 61.0 | 144.3 | 86.4 | 62.5 | 148.9 |
| ROMANIA | 46.0 | 107.0 | 153.0 | 57.0 | 117.4 | 174.4 | 58.0 | 138.8 | 196.8 |
| USSR | 345.0 | 277.0 | 622.0 | 372.8 | 285.5 | 658.3 | 388.8 | 324.0 | 712.8 |
| YUGOSLAVIA | 28.5 | 45.0 | 73.5 | 33.5 | 60.9 | 94.4 | 35.5 | 59.5 | 95.0 |
| **TOTAL EASTERN EUROPE** | **661.9** | **651.7** | **1313.6** | **715.0** | **696.2** | **1411.2** | **747.1** | **759.9** | **1507.0** |
| **TOTAL EUROPE** | **1538.9** | **2072.1** | **3611.0** | **1657.1** | **2199.7** | **3856.8** | **1736.7** | **2338.9** | **4075.6** |

**Y** Yarn+monofilaments.
**S** Staple+tow+fiberfill.
**a.** Includes Belgium, Netherlands and Luxembourg.

| ACTUAL PRODUCTION | | | | | | PRODUCING CAPACITY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | | | 1987 | | | 3/1988 | | | 12/1989 | | |
| Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| 0 | 15.0 | 15.0 | 0 | 14.1 | 14.1 | *0* | *22.0* | *22.0* | *0* | *22.0* | *22.0* |
| 73.0 | 34.4 | 107.4 | 74.0 | 33.0 | 107.0 | *99.5* | *69.0* | *168.5* | *99.5* | *69.0* | *168.5* |
| 0.2 | 0 | 0.2 | 0.5 | 0 | 0.5 | *0.6* | *0* | *0.6* | *0.6* | *0* | *0.6* |
| 61.2 | 106.0 | 167.2 | 52.0 | 107.0 | 159.0 | *86.0* | *133.0* | *219.0* | *86.0* | *133.0* | *219.0* |
| 347.0 | 395.0 | 742.0 | 355.3 | 408.7 | 764.0 | *418.0* | *433.0* | *851.0* | *418.0* | *433.0* | *851.0* |
| 9.6 | 10.0 | 19.6 | 8.0 | 10.0 | 18.0 | *17.7* | *12.0* | *29.7* | *17.7* | *12.0* | *29.7* |
| 13.0 | 61.0 | 74.0 | 12.0 | 63.0 | 75.0 | *14.0* | *66.5* | *80.5* | *14.0* | *66.5* | *80.5* |
| 175.0 | 397.0 | 572.0 | 171.0 | 393.0 | 564.0 | *194.7* | *425.0* | *619.7* | *194.7* | *425.0* | *619.7* |
| 0 | 55.0 | 55.0 | 0 | 60.5 | 60.5 | *0* | *65.0* | *65.0* | *0* | *65.0* | *65.0* |
| 84.9 | 186.0 | 270.9 | 79.2 | 183.8 | 263.0 | *121.0* | *226.2* | *347.2* | *121.0* | *226.2* | *347.2* |
| 67.1 | 26.0 | 93.1 | 67.8 | 22.1 | 89.9 | *85.0* | *33.0* | *118.0* | *85.0* | *33.0* | *118.0* |
| 60.0 | 169.0 | 229.0 | 73.0 | 187.0 | 260.0 | *112.0* | *216.0* | *328.0* | *150.0* | *216.0* | *366.0* |
| 78.2 | 130.0 | 208.2 | 81.4 | 121.6 | 203.0 | *107.0* | *179.0* | *286.0* | *107.0* | *159.0* | *266.0* |
| **969.2** | **1584.4** | **2553.6** | **974.2** | **1603.8** | **2578.0** | ***1255.5*** | ***1879.7*** | ***3135.2*** | ***1293.5*** | ***1859.7*** | ***3153.2*** |
| 0.4 | 0 | 0.4 | 0.5 | 0 | 0.5 | *2.0* | *5.0* | *7.0* | *2.0* | *5.0* | *7.0* |
| 38.0 | 42.9 | 80.9 | 39.1 | 43.7 | 82.8 | *60.0* | *93.0* | *153.0* | *60.0* | *108.0* | *168.0* |
| 78.0 | 50.5 | 128.5 | 79.6 | 52.3 | 131.9 | *95.5* | *87.0* | *182.5* | *95.5* | *87.0* | *182.5* |
| 77.0 | 81.8 | 158.8 | 77.9 | 82.7 | 160.6 | *90.0* | *90.0* | *180.0* | *97.0* | *115.0* | *212.0* |
| 7.7 | 13.4 | 21.1 | 6.8 | 16.9 | 23.7 | *12.0* | *23.0* | *35.0* | *12.0* | *32.0* | *44.0* |
| 85.6 | 62.3 | 147.9 | 87.0 | 64.1 | 151.1 | *110.2* | *84.0* | *194.2* | *110.2* | *84.0* | *194.2* |
| 58.8 | 140.9 | 199.7 | 59.5 | 142.4 | 201.9 | *68.0* | *174.0* | *242.0* | *68.0* | *179.0* | *247.0* |
| 404.8 | 353.0 | 757.8 | 435.0 | 401.0 | 836.0 | *476.0* | *472.0* | *948.0* | *504.0* | *488.0* | *992.0* |
| 39.7 | 57.6 | 97.3 | 44.0 | 63.9 | 107.9 | *72.0* | *112.0* | *184.0* | *72.0* | *112.0* | *184.0* |
| **790.0** | **802.4** | **1592.4** | **829.4** | **867.0** | **1696.4** | ***985.7*** | ***1140.0*** | ***2125.7*** | ***1020.7*** | ***1210.0*** | ***2230.7*** |
| **1759.2** | **2386.8** | **4146.0** | **1803.6** | **2470.8** | **4274.4** | ***2241.2*** | ***3019.7*** | ***5260.9*** | ***2314.2*** | ***3069.7*** | ***5383.9*** |

## TABLE 2:
## WORLDWIDE NONCELLULOSIC FIBER PRODUCTION & PRODUCING CAPACITY BY COUNTRY EXCEPT OLEFIN *(CONTINUED)*

THOUSAND METRIC TONS

| COUNTRY | ACTUAL PRODUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1983 | | | 1984 | | | 1985 | | |
| | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| **U.S.A.** | **1293.5** | **1715.0** | **3008.5** | **1259.8** | **1677.1** | **2936.9** | **1286.3** | **1577.9** | **2864.2** |
| ***OTHER AMERICAS*** | | | | | | | | | |
| ARGENTINA | 24.2 | 16.0 | 40.2 | 27.3 | 21.4 | 48.7 | 27.1 | 16.8 | 43.9 |
| BOLIVIA | 2.0 | 0 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BRAZIL | 105.7 | 79.6 | 185.3 | 118.2 | 97.6 | 215.8 | 121.7 | 95.8 | 217.5 |
| CANADA | 68.3 | 55.0 | 123.3 | 69.6 | 59.0 | 128.6 | 75.1 | 58.0 | 133.1 |
| CHILE | 2.6 | 1.0 | 3.6 | 2.8 | 1.1 | 3.9 | 4.1 | 2.0 | 6.1 |
| COLOMBIA | 31.3 | 8.9 | 40.2 | 38.6 | 10.7 | 49.3 | 38.3 | 9.9 | 48.2 |
| COSTA RICA | 3.5 | 0 | 3.5 | 3.5 | 0 | 3.5 | 3.5 | 0 | 3.5 |
| ECUADOR | 4.6 | 0 | 4.6 | 4.8 | 0 | 4.8 | 4.9 | 0 | 4.9 |
| MEXICO | 126.3 | 143.2 | 269.5 | 147.4 | 152.8 | 300.2 | 155.5 | 150.4 | 305.9 |
| PERU | 12.5 | 31.0 | 43.5 | 13.0 | 34.1 | 47.1 | 11.3 | 33.0 | 44.3 |
| URUGUAY | 1.6 | 3.7 | 5.3 | 1.6 | 3.4 | 5.0 | 1.8 | 4.0 | 5.8 |
| VENEZUELA | 9.7 | 4.0 | 13.7 | 10.2 | 5.5 | 15.7 | 12.5 | 6.0 | 18.5 |
| **TOTAL OTHER AMERICAS** | **392.3** | **342.4** | **734.7** | **437.0** | **385.6** | **822.6** | **455.8** | **375.9** | **831.7** |
| **JAPAN** | **597.3** | **720.9** | **1318.2** | **634.0** | **735.3** | **1369.3** | **645.4** | **757.3** | **1402.7** |
| **CHINA, PRC** | **69.0** | **317.2** | **386.2** | **99.1** | **460.3** | **559.4** | **134.9** | **597.1** | **732.0** |
| ***OTHER ASIA*** | | | | | | | | | |
| BANGLADESH | 0.2 | 0 | 0.2 | 0.3 | 0 | 0.3 | 0.5 | 0 | 0.5 |
| INDIA | 87.2 | 40.8 | 128.0 | 106.3 | 56.0 | 162.3 | 127.5 | 66.2 | 193.7 |
| INDONESIA | 66.4 | 61.8 | 128.2 | 71.5 | 73.3 | 144.8 | 76.9 | 70.3 | 147.2 |
| KOREA, REP. OF | 336.5 | 327.6 | 664.1 | 369.6 | 376.9 | 746.5 | 408.7 | 402.9 | 811.6 |
| MALAYSIA | 0 | 35.0 | 35.0 | 0 | 35.5 | 35.5 | 0 | 38.8 | 38.8 |
| PAKISTAN | 8.1 | 18.6 | 26.7 | 12.8 | 21.7 | 34.5 | 20.0 | 23.0 | 43.0 |
| PHILIPPINES | 24.5 | 12.8 | 37.3 | 20.5 | 13.0 | 33.5 | 22.0 | 12.2 | 34.2 |
| SRI LANKA | 1.0 | 0 | 1.0 | 1.0 | 0 | 1.0 | 1.2 | 0 | 1.2 |
| TAIWAN | 324.1 | 414.0 | 738.1 | 419.3 | 452.5 | 871.8 | 509.5 | 514.1 | 1023.6 |
| THAILAND | 40.0 | 50.0 | 90.0 | 39.7 | 52.4 | 92.1 | 42.6 | 55.0 | 97.6 |
| **TOTAL OTHER ASIA** | **888.0** | **960.6** | **1848.6** | **1041.0** | **1081.3** | **2122.3** | **1208.9** | **1182.5** | **2391.4** |
| ***MIDDLE EAST, AFRICA & OCEANIA*** | | | | | | | | | |
| AUSTRALIA/N.Z. | 14.5 | 1.0 | 15.5 | 13.0 | 1.0 | 14.0 | 14.6 | 1.0 | 15.6 |
| EGYPT | 3.5 | 20.6 | 24.1 | 5.5 | 25.6 | 31.1 | 5.6 | 27.6 | 33.2 |
| IRAN | 15.0 | 27.0 | 42.0 | 13.5 | 20.0 | 33.5 | 13.5 | 25.0 | 38.5 |
| ISRAEL | 8.7 | 7.0 | 15.7 | 9.5 | 7.0 | 16.5 | 13.7 | 7.3 | 21.0 |
| KENYA | 3.8 | 0 | 3.8 | 4.5 | 0 | 4.5 | 5.1 | 0 | 5.1 |
| NIGERIA | 2.5 | 2.5 | 5.0 | 3.0 | 3.0 | 6.0 | 3.2 | 3.0 | 6.2 |
| SOUTH AFRICA | 38.0 | 23.0 | 61.0 | 46.5 | 29.7 | 76.2 | 52.8 | 27.4 | 80.2 |
| TANZANIA | 2.0 | 0 | 2.0 | 2.0 | 0 | 2.0 | 2.0 | 0 | 2.0 |
| **TOTAL M.E., A. & O.** | **88.0** | **81.1** | **169.1** | **97.5** | **86.3** | **183.8** | **110.5** | **91.3** | **201.8** |
| **TOTAL WORLD** | **4867.0** | **6209.3** | **11076.3** | **5225.5** | **6625.6** | **11851.1** | **5578.5** | **6920.9** | **12499.4** |

| ACTUAL PRODUCTION | | | | | | PRODUCING CAPACITY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | | | 1987 | | | 3/1988 | | | 12/1989 | | |
| Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| **1260.2** | **1658.6** | **2918.8** | **1304.5** | **1789.8** | **3094.3** | ***1450.6*** | ***1956.4*** | ***3407.0*** | ***1522.3*** | ***2007.6*** | ***3529.9*** |
| 30.7 | 24.4 | 55.1 | 28.4 | 29.4 | 57.8 | *56.3* | *38.0* | *94.3* | *63.3* | *38.0* | *101.3* |
| 0 | 0 | 0 | 0 | 0 | 0 | *5.0* | *0* | *5.0* | *5.0* | *0* | *5.0* |
| 137.5 | 102.2 | 239.7 | 136.2 | 111.8 | 248.0 | *174.4* | *133.2* | *307.6* | *178.4* | *133.2* | *311.6* |
| 75.3 | 64.3 | 139.6 | 71.5 | 58.2 | 129.7 | *120.4* | *77.0* | *197.4* | *120.4* | *77.0* | *197.4* |
| 4.0 | 2.3 | 6.3 | 4.4 | 2.7 | 7.1 | *10.7* | *8.0* | *18.7* | *10.7* | *8.0* | *18.7* |
| 38.7 | 9.2 | 47.9 | 39.9 | 9.5 | 49.4 | *55.2* | *13.0* | *68.2* | *55.2* | *13.0* | *68.2* |
| 4.2 | 0 | 4.2 | 4.1 | 0 | 4.1 | *8.0* | *0* | *8.0* | *8.0* | *0* | *8.0* |
| 5.8 | + | 5.8 | 6.0 | 0 | 6.0 | *8.0* | *7.0* | *15.0* | *8.0* | *7.0* | *15.0* |
| 134.7 | 161.6 | 296.3 | 148.2 | 187.8 | 336.0 | *217.7* | *237.0* | *454.7* | *226.7* | *267.0* | *493.7* |
| 11.4 | 33.5 | 44.9 | 11.9 | 33.9 | 45.8 | *20.0* | *38.0* | *58.0* | *20.0* | *38.0* | *58.0* |
| 1.8 | 3.2 | 5.0 | 2.0 | 3.4 | 5.4 | *5.0* | *5.5* | *10.5* | *5.0* | *5.5* | *10.5* |
| 13.4 | 6.5 | 19.9 | 16.8 | 6.7 | 23.5 | *23.0* | *11.5* | *34.5* | *23.0* | *11.5* | *34.5* |
| **457.5** | **407.2** | **864.7** | **469.4** | **443.4** | **912.8** | ***703.7*** | ***568.2*** | ***1271.9*** | ***723.7*** | ***598.2*** | ***1321.9*** |
| **605.2** | **750.4** | **1355.6** | **608.8** | **731.8** | **1340.6** | ***824.0*** | ***946.5*** | ***1770.5*** | ***824.0*** | ***946.5*** | ***1770.5*** |
| **207.4** | **593.6** | **801.0** | **269.0** | **641.0** | **910.0** | ***306.0*** | ***760.0*** | ***1066.0*** | ***362.0*** | ***895.0*** | ***1257.0*** |
| 0.5 | 0 | 0.5 | 0.5 | 0 | 0.5 | *1.0* | *18.0* | *19.0* | *1.0* | *18.0* | *19.0* |
| 140.8 | 82.6 | 223.4 | 141.6 | 90.3 | 231.9 | *194.5* | *205.1* | *399.6* | *234.3* | *372.9* | *607.2* |
| 83.1 | 79.6 | 162.7 | 87.0 | 84.9 | 171.9 | *150.0* | *147.0* | *297.0* | *208.0* | *169.0* | *377.0* |
| 436.3 | 425.9 | 862.2 | 478.7 | 490.6 | 969.3 | *529.4* | *516.0* | *1045.4* | *573.4* | *524.0* | *1097.4* |
| 0 | 37.9 | 37.9 | 0 | 38.9 | 38.9 | *0* | *42.0* | *42.0* | *0* | *42.0* | *42.0* |
| 25.8 | 24.4 | 50.2 | 27.8 | 25.4 | 53.2 | *34.0* | *38.0* | *72.0* | *45.0* | *60.0* | *105.0* |
| 20.0 | 12.4 | 32.4 | 21.5 | 12.7 | 34.2 | *39.0* | *19.0* | *58.0* | *39.0* | *19.0* | *58.0* |
| 1.3 | 0 | 1.3 | 1.5 | 0 | 1.5 | *3.0* | *0* | *3.0* | *3.0* | *0* | *3.0* |
| 605.6 | 626.5 | 1232.1 | 715.1 | 676.2 | 1391.3 | *815.3* | *715.3* | *1530.6* | *1082.0* | *809.3* | *1891.3* |
| 40.0 | 57.0 | 97.0 | 51.3 | 67.2 | 118.5 | *74.2* | *77.0* | *151.2* | *87.2* | *92.0* | *179.2* |
| **1353.4** | **1346.3** | **2699.7** | **1525.0** | **1486.2** | **3011.2** | ***1840.4*** | ***1777.4*** | ***3617.8*** | ***2272.9*** | ***2106.2*** | ***4379.1*** |
| 16.3 | 1.0 | 17.3 | 18.1 | 1.1 | 19.2 | *25.5* | *1.5* | *27.0* | *25.5* | *1.5* | *27.0* |
| 6.3 | 30.6 | 36.9 | 6.9 | 32.1 | 39.0 | *14.6* | *57.0* | *71.6* | *14.6* | *96.0* | *110.6* |
| 9.5 | 26.0 | 35.5 | 9.5 | 25.9 | 35.4 | *39.5* | *50.0* | *89.5* | *39.5* | *50.0* | *89.5* |
| 10.5 | 7.3 | 17.8 | 11.5 | 7.4 | 18.9 | *22.0* | *11.0* | *33.0* | *22.0* | *11.0* | *33.0* |
| 5.1 | 1.0 | 6.1 | 5.0 | 1.1 | 6.1 | *17.0* | *5.4* | *22.4* | *17.0* | *5.4* | *22.4* |
| 3.5 | 3.1 | 6.6 | 4.0 | 3.1 | 7.1 | *8.0* | *5.0* | *13.0* | *8.0* | *5.0* | *13.0* |
| 56.2 | 29.5 | 85.7 | 56.8 | 29.9 | 86.7 | *65.0* | *40.0* | *105.0* | *68.0* | *40.0* | *108.0* |
| 2.5 | 0 | 2.5 | 3.0 | 0 | 3.0 | *5.0* | *0* | *5.0* | *5.0* | *0* | *5.0* |
| **109.9** | **98.5** | **208.4** | **114.8** | **100.6** | **215.4** | ***196.6*** | ***169.9*** | ***366.5*** | ***199.6*** | ***208.9*** | ***408.5*** |
| **5752.8** | **7241.4** | **12994.2** | **6095.1** | **7663.6** | **13758.7** | ***7562.5*** | ***9198.1*** | ***16760.6*** | ***8218.7*** | ***9832.1*** | ***18050.8*** |

## TABLE 3:
## WORLDWIDE CELLULOSIC FIBER PRODUCTION & PRODUCING CAPACITY BY COUNTRY
### THOUSAND METRIC TONS

| COUNTRY | ACTUAL PRODUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1983 | | | 1984 | | | 1985 | | |
| | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| ***WESTERN EUROPE*** [a] | | | | | | | | | |
| AUSTRIA | 11.4 | 109.7 | 121.1 | 14.8 | 109.0 | 123.8 | 14.9 | 109.0 | 123.9 |
| BELGIUM/NETHERLANDS | 41.1 | 6.1 | 47.2 | 41.1 | 0 | 41.1 | 42.0 | 0 | 42.0 |
| FINLAND | 0 | 57.6 | 57.6 | 0 | 58.0 | 58.0 | 0 | 60.0 | 60.0 |
| FRANCE | 8.4 | 29.5 | 37.9 | 7.5 | 19.0 | 26.5 | 7.0 | 15.0 | 22.0 |
| GERMANY, FED. REP. | 59.0 | 55.0 | 114.0 | 61.0 | 55.0 | 116.0 | 64.0 | 55.0 | 119.0 |
| GREECE | 6.3 | 0 | 6.3 | 6.0 | 0 | 6.0 | 7.0 | 0 | 7.0 |
| ITALY | 29.3 | 0 | 29.3 | 30.6 | 0 | 30.6 | 30.2 | 0 | 30.2 |
| PORTUGAL | 0.9 | 0 | 0.9 | 1.0 | 0 | 1.0 | 1.0 | 0 | 1.0 |
| SPAIN | 10.5 | 21.5 | 32.0 | 7.2 | 26.1 | 33.3 | 7.5 | 30.0 | 37.5 |
| SWEDEN | 0 | 39.3 | 39.3 | 0 | 40.1 | 40.1 | 0 | 33.0 | 33.0 |
| TURKEY | 0.3 | 4.0 | 4.3 | 0.3 | 4.5 | 4.8 | 1.0 | 7.0 | 8.0 |
| UNITED KINGDOM | 25.0 | 115.2 | 140.2 | 21.0 | 106.2 | 127.2 | 19.0 | 60.2 | 79.2 |
| **TOTAL WESTERN EUROPE** | **192.2** | **437.9** | **630.1** | **190.5** | **417.9** | **608.4** | **193.6** | **369.2** | **562.8** |
| ***EASTERN EUROPE*** | | | | | | | | | |
| BULGARIA | 4.1 | 35.0 | 39.1 | 4.1 | 37.1 | 41.2 | 4.1 | 37.6 | 41.7 |
| CZECHOSLOVAKIA | 20.1 | 37.9 | 58.0 | 20.5 | 38.6 | 59.1 | 20.9 | 39.6 | 60.5 |
| GERMANY, DEM. REP. | 35.0 | 130.1 | 165.1 | 35.2 | 135.0 | 170.2 | 35.4 | 132.4 | 167.8 |
| HUNGARY | 0 | 6.4 | 6.4 | 0 | 7.0 | 7.0 | 0 | 5.5 | 5.5 |
| POLAND | 18.2 | 51.2 | 69.4 | 19.5 | 56.0 | 75.5 | 20.5 | 50.6 | 71.1 |
| ROMANIA | 8.5 | 51.0 | 59.5 | 8.5 | 51.0 | 59.5 | 8.8 | 53.0 | 61.8 |
| USSR | 254.9 | 345.0 | 599.9 | 257.0 | 345.0 | 602.0 | 246.0 | 340.0 | 586.0 |
| YUGOSLAVIA | 14.0 | 58.0 | 72.0 | 14.0 | 55.0 | 69.0 | 14.9 | 55.0 | 69.9 |
| **TOTAL EASTERN EUROPE** | **354.8** | **714.6** | **1069.4** | **358.8** | **724.7** | **1083.5** | **350.6** | **713.7** | **1064.3** |
| **TOTAL EUROPE** | **547.0** | **1152.5** | **1699.5** | **549.3** | **1142.6** | **1691.9** | **544.2** | **1082.9** | **1627.1** |

**Y** Yarn+monofilaments.
**S** Staple+tow+fiberfill.
**a.** Starting in 1986 country detail is no longer available due to disclosure.
These totals do not include data for the Indonesian pilot plant nor production of cellulosic fiber in North Korea.
Production and producing capacity by country, divided between rayon and acetate yarn, is given on pages 108 - 109.
Also note page 112 for data on production of cigarette tow.

| ACTUAL PRODUCTION | | | | | | PRODUCING CAPACITY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | | | 1987 | | | 3/1988 | | | 12/1989 | | |
| Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| | | 123.0 | | | 120.0 | | | *130.5* | | | *130.5* |
| | | 40.0 | | | 40.0 | | | *44.2* | | | *44.2* |
| | | 55.0 | | | 54.0 | | | *70.0* | | | *70.0* |
| | | 21.0 | | | 23.0 | | | *23.0* | | | *23.0* |
| DETAIL NO LONGER AVAILABLE | | 119.0 | DETAIL NO LONGER AVAILABLE | | 118.0 | DETAIL NO LONGER AVAILABLE | | *131.0* | DETAIL NO LONGER AVAILABLE | | *131.0* |
| | | 7.7 | | | 7.8 | | | *8.0* | | | *8.0* |
| | | 30.0 | | | 29.2 | | | *43.0* | | | *43.0* |
| | | 0.9 | | | 1.2 | | | *2.0* | | | *2.0* |
| | | 37.0 | | | 36.0 | | | *42.1* | | | *44.1* |
| | | 22.1 | | | 23.0 | | | *47.0* | | | *47.0* |
| | | 8.0 | | | 8.0 | | | *10.4* | | | *10.4* |
| | | 58.0 | | | 55.0 | | | *75.5* | | | *75.5* |
| **190.6** | **331.1** | **521.7** | **186.2** | **329.0** | **515.2** | ***224.0*** | ***402.7*** | ***626.7*** | ***224.0*** | ***404.7*** | ***628.7*** |
| 4.2 | 38.0 | 42.2 | 4.3 | 38.4 | 42.7 | *5.0* | *42.0* | *47.0* | *5.0* | *42.0* | *47.0* |
| 21.1 | 40.5 | 61.6 | 21.4 | 41.0 | 62.4 | *27.0* | *61.0* | *88.0* | *27.0* | *61.0* | *88.0* |
| 35.6 | 92.1 | 127.7 | 35.9 | 92.6 | 128.5 | *39.0* | *160.0* | *199.0* | *39.0* | *160.0* | *199.0* |
| 0 | 5.5 | 5.5 | 0 | 5.6 | 5.6 | *0* | *10.0* | *10.0* | *10.0* | *10.0* | *20.0* |
| 19.1 | 52.9 | 72.0 | 19.0 | 53.8 | 72.8 | *32.0* | *71.5* | *103.5* | *32.0* | *71.5* | *103.5* |
| 9.0 | 55.0 | 64.0 | 9.0 | 57.0 | 66.0 | *11.0* | *95.0* | *106.0* | *11.0* | *95.0* | *106.0* |
| 246.0 | 343.0 | 589.0 | 246.5 | 345.0 | 591.5 | *290.0* | *353.0* | *643.0* | *290.0* | *353.0* | *643.0* |
| 15.1 | 56.0 | 71.1 | 13.3 | 50.0 | 63.3 | *17.0* | *60.0* | *77.0* | *17.0* | *60.0* | *77.0* |
| **350.1** | **683.0** | **1033.1** | **349.4** | **683.4** | **1032.8** | ***421.0*** | ***852.5*** | ***1273.5*** | ***431.0*** | ***852.5*** | ***1283.5*** |
| **540.7** | **1014.1** | **1554.8** | **535.6** | **1012.4** | **1548.0** | ***645.0*** | ***1255.2*** | ***1900.2*** | ***655.0*** | ***1257.2*** | ***1912.2*** |

## TABLE 3:
## WORLDWIDE CELLULOSIC FIBER PRODUCTION & PRODUCING CAPACITY BY COUNTRY *(CONTINUED)*

THOUSAND METRIC TONS

| COUNTRY | ACTUAL PRODUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1983 | | | 1984 | | | 1985 | | |
| | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| **U.S.A.** | **119.7** | **170.6** | **290.3** | **108.4** | **176.7** | **285.1** | **92.8** | **160.2** | **253.0** |
| ***OTHER AMERICAS*** | | | | | | | | | |
| ARGENTINA | 1.7 | 0 | 1.7 | 1.8 | 1.5 | 3.3 | 1.5 | 1.5 | 3.0 |
| BRAZIL | 18.4 | 22.0 | 40.4 | 17.7 | 29.0 | 46.7 | 20.1 | 26.5 | 46.6 |
| CANADA | 10.0 | 30.0 | 40.0 | 10.0 | 33.9 | 43.9 | 8.0 | 26.9 | 34.9 |
| CHILE | 1.0 | 3.2 | 4.2 | 1.2 | 3.7 | 4.9 | 1.3 | 3.8 | 5.1 |
| COLOMBIA | 1.8 | 0 | 1.8 | 1.8 | 0 | 1.8 | 1.8 | 0 | 1.8 |
| CUBA | 2.0 | 3.5 | 5.5 | 2.0 | 3.5 | 5.5 | 2.1 | 6.4 | 8.5 |
| MEXICO | 10.8 | 5.0 | 15.8 | 11.6 | 4.0 | 15.6 | 12.6 | 0 | 12.6 |
| PERU | 1.0 | 0 | 1.0 | 1.7 | 0 | 1.7 | 1.7 | 0 | 1.7 |
| URUGUAY | 1.0 | 0 | 1.0 | 1.0 | 0 | 1.0 | 1.0 | 0 | 1.0 |
| VENEZUELA | 1.5 | 0 | 1.5 | 1.9 | 0 | 1.9 | 2.1 | 0 | 2.1 |
| **TOTAL OTHER AMERICAS** | **49.2** | **63.7** | **112.9** | **50.7** | **75.6** | **126.3** | **52.2** | **65.1** | **117.3** |
| **JAPAN** | **116.8** | **271.0** | **387.8** | **110.8** | **266.6** | **377.4** | **104.6** | **283.3** | **387.9** |
| **CHINA, PRC** | **30.4** | **100.0** | **130.4** | **45.0** | **108.0** | **153.0** | **50.0** | **130.0** | **180.0** |
| ***OTHER ASIA*** | | | | | | | | | |
| BANGLADESH | 2.5 | 1.0 | 3.5 | 2.5 | 1.0 | 3.5 | 2.2 | 1.0 | 3.2 |
| INDIA | 46.2 | 69.9 | 116.1 | 41.7 | 100.1 | 141.8 | 46.9 | 95.0 | 141.9 |
| INDONESIA | 0 | 34.1 | 34.1 | 0 | 41.3 | 41.3 | 0 | 40.0 | 40.0 |
| KOREA, REP. OF | 12.9 | 0 | 12.9 | 12.8 | 0 | 12.8 | 13.8 | 0 | 13.8 |
| PAKISTAN | 2.7 | 0 | 2.7 | 3.1 | 0 | 3.1 | 3.2 | 0 | 3.2 |
| TAIWAN | 3.0 | 98.5 | 101.5 | 2.5 | 125.5 | 128.0 | 2.4 | 119.5 | 121.9 |
| THAILAND | 0 | 17.5 | 17.5 | 0 | 18.0 | 18.0 | 0 | 19.0 | 19.0 |
| **TOTAL OTHER ASIA** | **67.3** | **221.0** | **288.3** | **62.6** | **285.9** | **348.5** | **68.5** | **274.5** | **343.0** |
| ***MIDDLE EAST, AFRICA & OCEANIA*** | | | | | | | | | |
| EGYPT | 7.0 | 4.6 | 11.6 | 7.0 | 4.6 | 11.6 | 7.0 | 4.7 | 11.7 |
| IRAQ | 3.0 | 5.5 | 8.5 | 3.0 | 5.5 | 8.5 | 3.0 | 5.5 | 8.5 |
| **TOTAL M.E., A & O** | **10.0** | **10.1** | **20.1** | **10.0** | **10.1** | **20.1** | **10.0** | **10.2** | **20.2** |
| **TOTAL WORLD** | **940.4** | **1988.9** | **2929.3** | **936.8** | **2065.5** | **3002.3** | **922.3** | **2006.2** | **2928.5** |

| ACTUAL PRODUCTION | | | | | | PRODUCING CAPACITY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | | | 1987 | | | 3/1988 | | | 12/1989 | | |
| Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| **97.4** | **183.3** | **280.7** | **86.7** | **187.9** | **274.6** | ***110.7*** | ***212.7*** | ***323.4*** | ***110.7*** | ***212.7*** | ***323.4*** |
| 3.6 | 3.6 | 7.2 | 3.0 | 3.3 | 6.3 | *10.8* | *5.0* | *15.8* | *10.8* | *5.0* | *15.8* |
| 16.8 | 33.6 | 50.4 | 15.0 | 33.9 | 48.9 | *21.1* | *41.7* | *62.8* | *21.1* | *41.7* | *62.8* |
| 8.8 | 29.1 | 37.9 | 8.5 | 28.5 | 37.0 | *14.5* | *38.0* | *52.5* | *14.5* | *38.0* | *52.5* |
| 1.3 | 3.9 | 5.2 | 1.3 | 4.0 | 5.3 | *1.5* | *5.4* | *6.9* | *1.5* | *5.4* | *6.9* |
| 1.8 | 0 | 1.8 | 1.9 | 0 | 1.9 | *3.5* | *0* | *3.5* | *3.5* | *0* | *3.5* |
| 2.6 | 8.7 | 11.3 | 2.7 | 8.8 | 11.5 | *3.0* | *9.0* | *12.0* | *3.0* | *9.0* | *12.0* |
| 12.0 | 0 | 12.0 | 12.3 | 0 | 12.3 | *15.8* | *0* | *15.8* | *15.8* | *0* | *15.8* |
| 1.7 | 0 | 1.7 | 1.7 | 0 | 1.7 | *1.7* | *0* | *1.7* | *1.7* | *0* | *1.7* |
| 1.3 | 0 | 1.3 | 1.2 | 0 | 1.2 | *1.9* | *0* | *1.9* | *1.9* | *0* | *1.9* |
| 2.2 | 0 | 2.2 | 2.2 | 0 | 2.2 | *2.4* | *0* | *2.4* | *2.4* | *0* | *2.4* |
| **52.1** | **78.9** | **131.0** | **49.8** | **78.5** | **128.3** | ***76.2*** | ***99.1*** | ***175.3*** | ***76.2*** | ***99.1*** | ***175.3*** |
| **102.8** | **217.2** | **320.0** | **99.4** | **201.1** | **300.5** | ***135.5*** | ***248.5*** | ***384.0*** | ***135.5*** | ***248.5*** | ***384.0*** |
| **60.0** | **130.0** | **190.0** | **70.0** | **140.0** | **210.0** | ***100.0*** | ***150.0*** | ***250.0*** | ***100.0*** | ***150.0*** | ***250.0*** |
| 4.6 | 1.1 | 5.7 | 4.8 | 1.3 | 6.1 | *6.5* | *10.5* | *17.0* | *6.5* | *10.5* | *17.0* |
| 49.6 | 90.4 | 140.0 | 49.5 | 96.3 | 145.8 | *70.8* | *128.8* | *199.6* | *78.9* | *136.1* | *215.0* |
| 0 | 40.8 | 40.8 | 0 | 41.5 | 41.5 | *0* | *47.0* | *47.0* | *0* | *47.0* | *47.0* |
| 13.9 | 0 | 13.9 | 14.0 | 0 | 14.0 | *14.0* | *28.1* | *42.1* | *15.8* | *28.1* | *43.9* |
| 3.2 | 0 | 3.2 | 3.2 | 0 | 3.2 | *3.3* | *0* | *3.3* | *3.3* | *0* | *3.3* |
| 2.8 | 117.1 | 119.9 | 2.4 | 117.2 | 119.6 | *4.0* | *129.6* | *133.6* | *4.0* | *129.6* | *133.6* |
| 0 | 19.0 | 19.0 | 0 | 21.4 | 21.4 | *0* | *23.7* | *23.7* | *0* | *31.0* | *31.0* |
| **74.1** | **268.4** | **342.5** | **73.9** | **277.7** | **351.6** | ***98.6*** | ***367.7*** | ***466.3*** | ***108.5*** | ***382.3*** | ***490.8*** |
| 7.0 | 4.7 | 11.7 | 7.0 | 4.8 | 11.8 | *7.0* | *5.4* | *12.4* | *7.0* | *5.4* | *12.4* |
| 3.0 | 5.5 | 8.5 | 3.1 | 5.5 | 8.6 | *3.5* | *6.5* | *10.0* | *3.5* | *6.5* | *10.0* |
| **10.0** | **10.2** | **20.2** | **10.1** | **10.3** | **20.4** | ***10.5*** | ***11.9*** | ***22.4*** | ***10.5*** | ***11.9*** | ***22.4*** |
| **937.1** | **1902.1** | **2839.2** | **925.5** | **1907.9** | **2833.4** | ***1176.5*** | ***2345.1*** | ***3521.6*** | ***1196.4*** | ***2361.7*** | ***3558.1*** |

## TABLE 4:
## WORLDWIDE RAYON VS. ACETATE FILAMENT YARN PRODUCTION & PRODUCING CAPACITY BY COUNTRY
### THOUSAND METRIC TONS

| COUNTRY | ACTUAL PRODUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1983 | | | 1984 | | | 1985 | | |
| | H | R&C | A | H | R&C | A | H | R&C | A |
| ***WESTERN EUROPE*** | | | | | | | | | |
| AUSTRIA | 8 | 4 | 0 | 10 | 5 | 0 | 10 | 5 | 0 |
| BELGIUM/NETHERLANDS | 18 | 17 | 7 | 18 | 16 | 7 | 18 | 17 | 7 |
| FRANCE | 0 | 8 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| GERMANY, FED. REP. OF [a] | 39 | 20 | 0 | 40 | 21 | 0 | 40 | 24 | 0 |
| ITALY [a] | 9 | 2 | 18 | 11 | 2 | 18 | 10 | 2 | 18 |
| SPAIN | 3 | 4 | 3 | + | 4 | 3 | + | 4 | 3 |
| UNITED KINGDOM | 0 | 0 | 25 | 0 | 0 | 21 | 0 | 0 | 19 |
| OTHER [b] | 0 | 8 | 0 | 0 | 7 | 0 | 0 | 9 | 0 |
| **TOTAL WESTERN EUROPE** | **77** | **63** | **53** | **79** | **62** | **49** | **78** | **68** | **47** |
| ***EASTERN EUROPE*** | | | | | | | | | |
| BULGARIA | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 4 | 0 |
| CZECHOSLOVAKIA | 8 | 12 | 0 | 8 | 12 | 0 | 8 | 13 | 0 |
| GERMANY, DEM. REP. | 13 | 22 | 0 | 13 | 22 | 0 | 14 | 22 | 0 |
| POLAND | 4 | 14 | 0 | 5 | 15 | 0 | 5 | 15 | 0 |
| ROMANIA | 5 | 3 | 0 | 5 | 3 | 0 | 5 | 4 | 0 |
| USSR [a] | 120 | 80 | 55 | 120 | 80 | 57 | 116 | 80 | 50 |
| YUGOSLAVIA | 7 | 7 | 0 | 7 | 7 | 0 | 8 | 7 | 0 |
| **TOTAL EASTERN EUROPE** | **157** | **142** | **55** | **158** | **143** | **57** | **156** | **145** | **50** |
| **U.S.A. [a]** | **11** | **6** | **103** | **13** | **6** | **90** | **9** | **6** | **78** |
| ***OTHER AMERICAS*** | | | | | | | | | |
| ARGENTINA | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 |
| BRAZIL | 3 | 14 | 1 | 4 | 12 | 2 | 4 | 15 | 1 |
| CANADA | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 8 |
| CHILE | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| COLOMBIA | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 |
| CUBA | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| MEXICO | 3 | 2 | 6 | 2 | 3 | 6 | 3 | 3 | 7 |
| PERU | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 2 |
| URUGUAY | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| VENEZUELA | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 2 |
| **TOTAL OTHER AMERICAS** | **8** | **17** | **24** | **8** | **16** | **27** | **9** | **19** | **25** |
| **JAPAN [a]** | **3** | **82** | **32** | **2** | **78** | **31** | **2** | **74** | **28** |
| **CHINA, PRC** | **0** | **30** | **0** | **0** | **45** | **0** | **0** | **50** | **0** |
| ***OTHER ASIA*** | | | | | | | | | |
| BANGLADESH | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 2 | 0 |
| INDIA | 10 | 35 | 1 | 8 | 33 | 1 | 7 | 40 | + |
| KOREA, REP. OF | 0 | 11 | 2 | 0 | 11 | 2 | 0 | 12 | 2 |
| PAKISTAN | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 3 |
| TAIWAN | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| **TOTAL OTHER ASIA** | **10** | **51** | **6** | **8** | **49** | **6** | **7** | **56** | **5** |
| **OTHER M.E., A & O [c]** | **0** | **10** | **0** | **0** | **10** | **0** | **0** | **10** | **0** |
| **WORLD TOTAL** | **266** | **401** | **273** | **268** | **409** | **260** | **261** | **428** | **233** |

**H** High tenacity (tire & industrial type) viscose rayon yarn.
**R** Regular + intermediate tenacity viscose rayon yarn.
**C** Cuprammonium rayon yarn.
**A** Acetate + triacetate yarn.
**a.** Produces both regular + intermediate rayon yarn and cuprammonium rayon yarn.
**b.** Comprises Greece, Portugal and Turkey.
**c.** Comprises Egypt and Iraq.

| ACTUAL PRODUCTION | | | | | | PRODUCING CAPACITY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | | | 1987 | | | 3/1988 | | | 12/1989 | | |
| H | R&C | A | H | R&C | A | H | R&C | A | H | R&C | A |
| DETAIL NO LONGER AVAILABLE | | | DETAIL NO LONGER AVAILABLE | | | DETAIL NO LONGER AVAILABLE | | | DETAIL NO LONGER AVAILABLE | | |
| 71 | 69 | 51 | 71 | 69 | 46 | *84* | *85* | *55* | *84* | *85* | *55* |
| 0 | 4 | 0 | 0 | 4 | 0 | *0* | *5* | *0* | *0* | *5* | *0* |
| 8 | 13 | 0 | 8 | 13 | 0 | *11* | *16* | *0* | *11* | *16* | *0* |
| 14 | 22 | 0 | 14 | 22 | 0 | *15* | *24* | *0* | *15* | *24* | *0* |
| 5 | 13 | 0 | 5 | 14 | 0 | *9* | *23* | *0* | *9* | *23* | *0* |
| 5 | 4 | 0 | 5 | 4 | 0 | *6* | *5* | *0* | *6* | *5* | *0* |
| 116 | 80 | 50 | 117 | 80 | 50 | *120* | *100* | *70* | *120* | *100* | *70* |
| 8 | 8 | 0 | 6 | 7 | 0 | *8* | *9* | *0* | *8* | *9* | *0* |
| 156 | 144 | 50 | 155 | 144 | 50 | *169* | *182* | *70* | *169* | *182* | *70* |
| 7 | 6 | 84 | 7 | 6 | 74 | *23* | *6* | *82* | *23* | *6* | *82* |
| 0 | 0 | 3 | 0 | 0 | 3 | *0* | *8* | *3* | *0* | *8* | *3* |
| 1 | 15 | 0 | 0 | 15 | 0 | *2* | *17* | *2* | *2* | *17* | *2* |
| 0 | 0 | 9 | 0 | 0 | 9 | *0* | *0* | *15* | *0* | *0* | *15* |
| 0 | 1 | 0 | 0 | 1 | 0 | *0* | *2* | *0* | *0* | *2* | *0* |
| 0 | 0 | 2 | 0 | 0 | 2 | *0* | *0* | *3* | *0* | *0* | *3* |
| 3 | 0 | 0 | 3 | 0 | 0 | *3* | *0* | *0* | *3* | *0* | *0* |
| 2 | 3 | 7 | 2 | 3 | 7 | *3* | *4* | *9* | *3* | *4* | *9* |
| 0 | 0 | 2 | 0 | 0 | 2 | *0* | *0* | *2* | *0* | *0* | *2* |
| 0 | 0 | 1 | 0 | 0 | 1 | *0* | *0* | *2* | *0* | *0* | *2* |
| 0 | 0 | 2 | 0 | 0 | 2 | *0* | *0* | *2* | *0* | *0* | *2* |
| 6 | 19 | 26 | 5 | 19 | 26 | *8* | *31* | *38* | *8* | *31* | *38* |
| 2 | 74 | 27 | 2 | 71 | 27 | *10* | *92* | *33* | *10* | *92* | *33* |
| 0 | 60 | 0 | 0 | 70 | 0 | *0* | *100* | *0* | *0* | *100* | *0* |
| 0 | 5 | 0 | 0 | 5 | 0 | *0* | *6* | *0* | *0* | *6* | *0* |
| 6 | 44 | + | 5 | 45 | + | *21* | *46* | *4* | *21* | *54* | *4* |
| 0 | 12 | 2 | 0 | 12 | 2 | *0* | *12* | *2* | *0* | *12* | *4* |
| 0 | 0 | 3 | 0 | 0 | 3 | *0* | *0* | *3* | *0* | *0* | *3* |
| 0 | 3 | 0 | 0 | 2 | 0 | *0* | *4* | *0* | *0* | *4* | *0* |
| 6 | 64 | 5 | 5 | 64 | 5 | *21* | *68* | *9* | *21* | *76* | *11* |
| 0 | 10 | 0 | 0 | 10 | 0 | *0* | *11* | *0* | *0* | *11* | *0* |
| 248 | 446 | 243 | 245 | 453 | 228 | *315* | *575* | *287* | *315* | *583* | *289* |

## TABLE 5:
## WORLDWIDE NONCELLULOSIC FIBER PRODUCTION & PRODUCING CAPACITY
## BY FIBER EXCEPT OLEFIN
### THOUSAND METRIC TONS

| FIBER & AREA | ACTUAL PRODUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1983 | | | 1984 | | | 1985 | | |
| | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL |
| ***ACRYLIC+MODACRYLIC*** | | | | | | | | | |
| WEST EUROPE | 0 | 833 | 833 | 1 | 866 | 867 | 1 | 925 | 926 |
| EAST EUROPE | 0 | 219 | 219 | 0 | 223 | 223 | 0 | 246 | 246 |
| U.S.A. | 0 | 304 | 304 | 0 | 304 | 304 | 0 | 286 | 286 |
| OTHER AMERICAS | 0 | 130 | 130 | 0 | 140 | 140 | 0 | 134 | 134 |
| JAPAN | 2 | 355 | 357 | 2 | 367 | 369 | 2 | 380 | 382 |
| CHINA, PRC | 0 | 68 | 68 | 0 | 69 | 69 | 0 | 73 | 73 |
| OTHER ASIA | 0 | 291 | 291 | 0 | 314 | 314 | 0 | 319 | 319 |
| MIDDLE EAST, AFRICA & OCEANIA | 0 | 19 | 19 | 0 | 12 | 12 | 0 | 16 | 16 |
| **TOTAL** | **2** | **2219** | **2221** | **3** | **2295** | **2298** | **3** | **2379** | **2382** |
| ***NYLON+ARAMID*** [a] | | | | | | | | | |
| WEST EUROPE | 485 | 126 | 611 | 504 | 144 | 648 | 532 | 152 | 684 |
| EAST EUROPE | 500 | 83 | 583 | 527 | 85 | 612 | 539 | 93 | 632 |
| U.S.A. | 677 | 420 | 1097 | 715 | 379 | 1094 | 687 | 375 | 1062 |
| OTHER AMERICAS | 189 | 24 | 213 | 211 | 24 | 235 | 228 | 20 | 248 |
| JAPAN | 271 | 18 | 289 | 288 | 19 | 307 | 291 | 24 | 315 |
| CHINA, PRC | 44 | 0 | 44 | 57 | 1 | 58 | 70 | 1 | 71 |
| OTHER ASIA | 307 | 4 | 311 | 344 | 3 | 347 | 367 | 5 | 372 |
| MIDDLE EAST, AFRICA & OCEANIA | 46 | 2 | 48 | 51 | 2 | 53 | 56 | 2 | 58 |
| **TOTAL** | **2519** | **677** | **3196** | **2697** | **657** | **3354** | **2770** | **672** | **3442** |
| ***POLYESTER*** | | | | | | | | | |
| WEST EUROPE | 386 | 452 | 838 | 431 | 485 | 916 | 451 | 493 | 944 |
| EAST EUROPE | 162 | 346 | 508 | 187 | 384 | 571 | 207 | 418 | 625 |
| U.S.A. | 617 | 991 | 1608 | 544 | 994 | 1538 | 599 | 917 | 1516 |
| OTHER AMERICAS | 202 | 188 | 390 | 225 | 222 | 447 | 226 | 222 | 448 |
| JAPAN | 310 | 320 | 630 | 327 | 320 | 647 | 329 | 323 | 652 |
| CHINA, PRC | 18 | 194 | 212 | 35 | 320 | 355 | 55 | 443 | 498 |
| OTHER ASIA | 581 | 666 | 1247 | 697 | 763 | 1460 | 842 | 858 | 1700 |
| MIDDLE EAST, AFRICA & OCEANIA | 42 | 60 | 102 | 47 | 72 | 119 | 55 | 73 | 128 |
| **TOTAL** | **2318** | **3217** | **5535** | **2493** | **3560** | **6053** | **2764** | **3747** | **6511** |
| ***OTHER FIBERS EXCEPT OLEFIN*** [b] | | | | | | | | | |
| WEST EUROPE | 6 | 9 | 15 | 6 | 9 | 15 | 6 | 9 | 15 |
| EAST EUROPE | + | 4 | 4 | 1 | 4 | 5 | 1 | 3 | 4 |
| U.S.A. | + | + | + | + | + | + | + | + | + |
| OTHER AMERICAS | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 2 |
| JAPAN | 14 | 28 | 42 | 17 | 29 | 46 | 23 | 30 | 53 |
| CHINA, PRC | 7 | 55 | 62 | 7 | 70 | 77 | 10 | 80 | 90 |
| OTHER ASIA | + | + | + | + | 1 | 1 | + | 1 | 1 |
| MIDDLE EAST, AFRICA & OCEANIA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **28** | **96** | **124** | **32** | **113** | **145** | **42** | **123** | **165** |
| ***TOTAL FIBERS ABOVE*** | | | | | | | | | |
| WEST EUROPE | 877 | 1420 | 2297 | 942 | 1504 | 2446 | 990 | 1579 | 2569 |
| EAST EUROPE | 662 | 652 | 1314 | 715 | 696 | 1411 | 747 | 760 | 1507 |
| U.S.A. | 1294 | 1715 | 3009 | 1259 | 1677 | 2936 | 1286 | 1578 | 2864 |
| OTHER AMERICAS | 392 | 342 | 734 | 437 | 386 | 823 | 456 | 376 | 832 |
| JAPAN | 597 | 721 | 1318 | 634 | 735 | 1369 | 645 | 757 | 1402 |
| CHINA, PRC | 69 | 317 | 386 | 99 | 460 | 559 | 135 | 597 | 732 |
| OTHER ASIA | 888 | 961 | 1849 | 1041 | 1081 | 2122 | 1209 | 1183 | 2392 |
| MIDDLE EAST, AFRICA & OCEANIA | 88 | 81 | 169 | 98 | 86 | 184 | 111 | 91 | 202 |
| **WORLD TOTAL** | **4867** | **6209** | **11076** | **5225** | **6625** | **11850** | **5579** | **6921** | **12500** |

**Y** Yarn+monofilaments.
**S** Staple+tow+fiberfill.
**+** Nominal quantities.
**a.** U.S.A. nylon producing capacity data do not include aramid.
**b.** Other fibers are alginate, azlon, spandex or elastomer, saran, TFE-fluorocarbon, vinal and vinyon. U.S.A. production data do not include spandex.
**c.** Based on 1987 production and an average March 1987 and March 1988 producing capacity. Refer to June 1987 ***Textile Organon*** for March 1987 producing capacity.

The regional totals here are the same as those on pages 100 - 103.

| ACTUAL PRODUCTION | | | | | | PRODUCING CAPACITY | | | | | | % UTILIZATION [C] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | | | 1987 | | | 3/1988 | | | 12/1989 | | | | |
| Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL | Y | S | TOTAL | Y | S |
| 1 | 934 | 935 | 1 | 942 | 943 | 1 | 1064 | 1065 | 1 | 1064 | 1065 | 100.0 | 88.9 |
| 0 | 259 | 259 | 0 | 277 | 277 | 0 | 352 | 352 | 0 | 422 | 422 | 0 | 77.6 |
| 0 | 279 | 279 | 0 | 268 | 268 | 0 | 289 | 289 | 0 | 291 | 291 | 0 | 92.1 |
| 0 | 154 | 154 | 0 | 181 | 181 | 0 | 211 | 211 | 0 | 211 | 211 | 0 | 88.1 |
| 3 | 394 | 397 | 3 | 404 | 407 | 6 | 438 | 444 | 6 | 438 | 444 | 50.0 | 93.6 |
| 0 | 74 | 74 | 0 | 75 | 75 | 0 | 117 | 117 | 0 | 161 | 161 | 0 | 63.3 |
| 0 | 328 | 328 | 0 | 343 | 343 | 0 | 393 | 393 | 0 | 453 | 453 | 0 | 83.9 |
| 0 | 17 | 17 | 0 | 17 | 17 | 0 | 36 | 36 | 0 | 52 | 52 | 0 | 53.1 |
| **4** | **2439** | **2443** | **4** | **2507** | **2511** | **7** | **2900** | **2907** | **7** | **3092** | **3099** | **57.1** | **86.3** |
| 517 | 140 | 657 | 517 | 144 | 661 | 662 | 195 | 857 | 680 | 195 | 875 | 78.3 | 74.2 |
| 550 | 94 | 644 | 566 | 95 | 661 | 648 | 120 | 768 | 683 | 120 | 803 | 87.3 | 81.5 |
| 728 | 412 | 1140 | 770 | 450 | 1220 | 836 | 513 | 1349 | 898 | 530 | 1428 | 91.9 | 88.8 |
| 225 | 25 | 250 | 217 | 23 | 240 | 376 | 46 | 422 | 383 | 46 | 429 | 59.6 | 51.7 |
| 260 | 19 | 279 | 262 | 17 | 279 | 328 | 27 | 355 | 328 | 27 | 355 | 79.6 | 60.7 |
| 74 | 1 | 75 | 79 | 1 | 80 | 90 | 5 | 95 | 110 | 5 | 115 | 87.8 | 20.0 |
| 387 | 4 | 391 | 426 | 6 | 432 | 569 | 12 | 581 | 608 | 18 | 626 | 76.5 | 66.7 |
| 59 | 2 | 61 | 62 | 2 | 64 | 109 | 3 | 112 | 112 | 3 | 115 | 56.6 | 66.7 |
| **2800** | **697** | **3497** | **2899** | **738** | **3637** | **3618** | **921** | **4539** | **3802** | **944** | **4746** | **80.6** | **81.4** |
| 446 | 501 | 947 | 451 | 509 | 960 | 584 | 609 | 1193 | 604 | 588 | 1192 | 78.3 | 84.1 |
| 239 | 446 | 685 | 262 | 492 | 754 | 337 | 660 | 997 | 337 | 660 | 997 | 75.8 | 74.7 |
| 532 | 968 | 1500 | 535 | 1071 | 1606 | 601 | 1154 | 1755 | 610 | 1187 | 1797 | 87.7 | 94.5 |
| 231 | 228 | 459 | 250 | 239 | 489 | 326 | 311 | 637 | 339 | 341 | 680 | 75.3 | 78.1 |
| 322 | 310 | 632 | 323 | 283 | 606 | 460 | 383 | 843 | 460 | 383 | 843 | 72.0 | 76.6 |
| 123 | 456 | 579 | 180 | 500 | 680 | 201 | 563 | 764 | 237 | 654 | 891 | 89.6 | 82.4 |
| 966 | 1013 | 1979 | 1099 | 1135 | 2234 | 1270 | 1372 | 2642 | 1664 | 1635 | 3299 | 85.4 | 83.4 |
| 51 | 80 | 131 | 53 | 82 | 135 | 88 | 131 | 219 | 88 | 154 | 242 | 59.6 | 67.8 |
| **2910** | **4002** | **6912** | **3153** | **4311** | **7464** | **3867** | **5183** | **9050** | **4339** | **5602** | **9941** | **82.1** | **83.5** |
| 5 | 9 | 14 | 5 | 9 | 14 | 8 | 12 | 20 | 8 | 12 | 20 | 62.5 | 75.0 |
| 1 | 3 | 4 | 1 | 3 | 4 | 1 | 8 | 9 | 1 | 8 | 9 | 100.0 | 37.5 |
| + | + | + | + | + | + | 14 | 0 | 14 | 14 | 0 | 14 | 0 | 0 |
| 2 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 100.0 | 0 |
| 20 | 27 | 47 | 21 | 28 | 49 | 30 | 99 | 129 | 30 | 99 | 129 | 59.2 | 27.7 |
| 10 | 63 | 73 | 10 | 65 | 75 | 15 | 75 | 90 | 15 | 75 | 90 | 66.7 | 86.7 |
| + | 1 | 1 | 0 | 2 | 2 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **38** | **103** | **141** | **39** | **107** | **146** | **71** | **194** | **265** | **71** | **194** | **265** | **51.3** | **54.6** |
| 969 | 1584 | 2553 | 974 | 1604 | 2578 | 1255 | 1880 | 3135 | 1293 | 1859 | 3152 | 78.2 | 85.7 |
| 790 | 802 | 1592 | 829 | 867 | 1696 | 986 | 1140 | 2126 | 1021 | 1210 | 2231 | 83.4 | 76.1 |
| 1260 | 1659 | 2919 | 1305 | 1789 | 3094 | 1451 | 1956 | 3407 | 1522 | 2008 | 3530 | 89.3 | 92.7 |
| 458 | 407 | 865 | 469 | 443 | 912 | 704 | 568 | 1272 | 724 | 598 | 1322 | 67.2 | 79.7 |
| 605 | 750 | 1355 | 609 | 732 | 1341 | 824 | 947 | 1771 | 824 | 947 | 1771 | 74.4 | 78.7 |
| 207 | 594 | 801 | 269 | 641 | 910 | 306 | 760 | 1066 | 362 | 895 | 1257 | 87.9 | 79.6 |
| 1353 | 1346 | 2699 | 1525 | 1486 | 3011 | 1840 | 1777 | 3617 | 2273 | 2106 | 4379 | 82.7 | 83.5 |
| 110 | 99 | 209 | 115 | 101 | 216 | 197 | 170 | 367 | 200 | 209 | 409 | 57.9 | 64.7 |
| **5752** | **7241** | **12993** | **6095** | **7663** | **13758** | **7563** | **9198** | **16761** | **8219** | **9832** | **18051** | **81.1** | **83.6** |

## TABLE 6:
## WORLDWIDE GLASS FIBER PRODUCTION & PRODUCING CAPACITY
### THOUSAND METRIC TONS

| COUNTRY | PRODUCTION | | | | | CAPACITY | |
|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | 1985 | 1986 | 1987 | 3/88 | 12/89 |
| WEST EUROPE<br>EAST EUROPE[a] | 290 | 300 | 320 | 364 | 407 | *415*<br>*100* | *450*<br>*100* |
| U.S.A. | 530 | 632 | 610 | 630 | 725 | *776* | *793* |
| OTHER AMERICIAS | 37 | 39 | 32 | 35 | 50 | *70* | *75* |
| JAPAN | 206 | 249 | 273 | 240 | 261 | *315* | *330* |
| MIDDLE EAST, AFRICA & OCEANIA[b] | 14 | 14 | 28 | 30 | 35 | *40* | *65* |
| **TOTAL ABOVE** | **1077** | **1234** | **1263** | **1299** | **1478** | ***1716*** | ***1813*** |
| CHINA P.R.C. | 30 | 40 | 50 | 50 | 55 | *95* | *100* |
| U.S.S.R. | 65 | 75 | 85 | 100 | 110 | *185* | *200* |

Glass fiber is defined on page114 of this issue. The glass fiber producing capacity, is based on March 1988 and December 1989 annual projections.

a. The data for East Europe do not include estimates for the U.S.S.R.
b. The Other Asia, Africa & Oceania countries are Australia, India and South Africa.

## TABLE 7:
## ESTIMATED WORLDWIDE CIGARETTE TOW PRODUCTION
### THOUSAND METRIC TONS

| AREA | 1983 | 1984 | 1985 | 1986 | 1987 |
|---|---|---|---|---|---|
| EUROPE[a] | 80 | 80 | 83 | 104 | 107 |
| U.S.A.<br>OTHER AMERICAS[b] | 211 | 187 | 210 | 216 | 247 |
| ASIA[c] | 43 | 47 | 44 | 42 | 46 |
| **WORLD TOTAL** | **334** | **314** | **337** | **362** | **400** |

a. Belgium, Germany, Fed. Rep., U.S.S.R. & United Kingdom.
b. Brazil, Canada, Colombia, Mexico & Venezuela.
c. Japan and Korea, Rep. of.

## TABLE 8:
## WORLDWIDE OLEFIN FIBER PRODUCTION
### THOUSAND METRIC TONS

| COUNTRY | 1983 | 1984 | 1985 | 1986 | 1987 |
|---|---|---|---|---|---|
| ***WEST EUROPE*** | | | | | |
| AUSTRIA | 20 | 21 | 24 | 26 | 27 |
| BENELUX | 75 | 97 | 120 | 141 | 150 |
| DENMARK | 14 | 14 | 25 | 26 | 28 |
| FINLAND | 4 | 14 | 24 | 24 | 18 |
| FRANCE | 29 | 29 | 50 | 55 | 55 |
| GREECE/CYPRUS | 10 | 11 | 14 | 15 | 16 |
| GERMANY, FED. REP. | 61 | 81 | 113 | 117 | 125 |
| IRELAND | 9 | 9 | 9 | 9 | 10 |
| ITALY | 67 | 91 | 127 | 130 | 130 |
| NORWAY | 5 | 4 | 4 | 4 | 5 |
| PORTUGAL | 39 | 39 | 40 | 40 | 41 |
| SPAIN | 36 | 37 | 37 | 41 | 42 |
| SWEDEN | 4 | 4 | 6 | 6 | 6 |
| SWITZERLAND | 4 | 8 | 14 | 17 | 18 |
| TURKEY | 6 | 6 | 6 | 6 | 7 |
| UNITED KINGDOM | 80 | 80 | 95 | 110 | 116 |
| **TOTAL WEST EUROPE** | **463** | **545** | **708** | **767** | **794** |
| ***EAST EUROPE*** | | | | | |
| CZECHOSLOVAKIA | 12 | 12 | 12 | 12 | 12 |
| HUNGARY | 16 | 16 | 17 | 17 | 17 |
| POLAND | 15 | 16 | 16 | 17 | 17 |
| U.S.S.R. | 18 | 20 | 22 | 24 | 24 |
| ***U.S.A.*** | | | | | |
| YARN+MONOFIL | 168 | 175 | 192 | 213 | 224 |
| STAPLE | 86 | 113 | 137 | 152 | 164 |
| FILM FIBER | 149 | 154 | 233 | 263 | 299 |
| ***OTHER AMERICAS*** | | | | | |
| ARGENTINA | 12 | 12 | 13 | 13 | 13 |
| BRAZIL | 36 | 39 | 39 | 40 | 40 |
| CANADA | 32 | 30 | 32 | 33 | 34 |
| CHILE | 1 | 1 | 1 | 1 | 1 |
| EL SALVADOR<br>GUATEMALA<br>HONDURAS | 3 | 3 | 3 | 3 | 3 |
| MEXICO | 26 | 26 | 26 | 27 | 27 |
| NICARAGUA | 1 | 1 | 1 | 1 | 1 |
| PERU | 6 | 6 | 6 | 7 | 7 |
| URUGUAY | 2 | 2 | 2 | 2 | 2 |
| ***JAPAN*** | | | | | |
| YARN+MONOFIL | 14 | 14 | 14 | 11 | 14 |
| STAPLE | 29 | 32 | 35 | 37 | 37 |
| FILM FIBER | NA | NA | NA | NA | NA |
| ***OTHER ASIA*** | | | | | |
| KOREA, REP. OF | 1 | 1 | 1 | 0 | 0 |
| PHILIPPINES | 3 | 3 | 3 | 3 | 3 |
| TAIWAN | 60 | 63 | 71 | 77 | 78 |
| ***MIDDLE EAST, AFRICA & OCEANIA*** | | | | | |
| AUSTRALIA | 21 | 22 | 23 | 25 | 26 |
| SOUTH AFRICA | 5 | 5 | 5 | 5 | 5 |
| OTHER | 1 | 1 | 1 | 1 | 1 |

The olefin data shown include the "official" country data published by a government, an association or other statistical agency as well as an estimate of the olefin fiber, mainly slit and split film fiber, believed to have been produced in the country. For example: although U.S. olefin production data include yarn, monofil, staple, film fiber, and spunbonded polypropylene, published Italian and Japanese olefin data show the production of yarn+monofilaments and staple+tow but no data on production of film fiber, such as that used in sacks, fishing nets, and carpet backing. Estimates were made in the latter example.

Due to the inconsistencies in olefin production reporting, we have made no attempt to show a worldwide total.

## TABLE 9:
## NUMBER OF MAN-MADE FIBER PRODUCING PLANTS (EXCEPT OLEFIN)

| COUNTRY & REGION | CELLULOSIC | | NONCELLULOSIC | | | | | GLASS FIBER | GRAND TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| | ACETATE[a] | RAYON | ACRYLIC[b] | NYLON[c] | POLY-ESTER | OTHER[d] | TOTAL | | |
| ***WESTERN EUROPE*** | | | | | | | | | |
| AUSTRIA | | 3 | | | 1 | 2 | 3 | | 6 |
| BELGIUM/LUXEMBOURG | 1 | 1 | | 3 | 1 | | 4 | 2 | 8 |
| FINLAND | | 1 | | 1 | | | 1 | 1 | 3 |
| FRANCE | | 2 | 1 | 8 | 3 | 1 | 13 | 2 | 17 |
| GERMANY, FED. REP. | 1 | 4 | 3 | 11 | 12 | 4 | 30 | 2 | 37 |
| GREECE | | 1 | 1 | 2 | 3 | | 6 | | 7 |
| IRELAND | | | 1 | 1 | 2 | | 4 | | 4 |
| ITALY/MALTA | 2 | 2 | 5 | 17 | 9 | 2 | 33 | 2 | 39 |
| NETHERLANDS | | 1 | | 1 | 1 | 2 | 4 | 1 | 6 |
| NORWAY | | | | | | | | 1 | 1 |
| PORTUGAL | | 2 | 1 | 2 | 1 | | 4 | 1 | 7 |
| SPAIN | 1 | 2 | 2 | 7 | 6 | | 15 | 1 | 19 |
| SWEDEN | | 1 | | | | | | 1 | 2 |
| SWITZERLAND | | | | 5 | 3 | | 8 | | 8 |
| TURKEY | | 1 | 2 | 4 | 8 | | 14 | 1 | 16 |
| UNITED KINGDOM | 2 | 1 | 2 | 5 | 6 | 4 | 17 | 5 | 25 |
| **TOTAL WESTERN EUROPE** | **7** | **22** | **18** | **67** | **56** | **15** | **156** | **20** | **205** |
| ***EASTERN EUROPE*** | | | | | | | | | |
| ALBANIA | | | 1 | | 1 | | 2 | | 2 |
| BULGARIA | | 1 | 1 | 1 | 1 | | 3 | | 4 |
| CZECHOSLOVAKIA | | 8 | | 3 | 2 | | 5 | 2 | 13 |
| GERMANY, DEM. REP. | | 8 | 2 | 3 | 2 | 1 | 8 | 1 | 17 |
| HUNGARY | | 1 | 1 | 1 | | | 2 | | 3 |
| POLAND | | 5 | 1 | 1 | 2 | 2 | 6 | 2 | 13 |
| ROMANIA | | 3 | 1 | 1 | 4 | | 6 | | 9 |
| YUGOSLAVIA | | 2 | 1 | 2 | 5 | | 8 | 1 | 11 |
| **TOTAL EASTERN EUROPE** | | **26** | **8** | **12** | **17** | **3** | **40** | **6** | **72** |
| **U.S.A.** | **4** | **4** | **5** | **34** | **34** | **8** | **81** | **17** | **106** |
| ***OTHER AMERICAS*** | | | | | | | | | |
| ARGENTINA | 1 | 1 | 1 | 7 | 5 | 1 | 14 | 1 | 17 |
| BOLIVA | | | 1 | | 1 | | 2 | | 2 |
| BRAZIL | | 3 | 2 | 17 | 12 | 1 | 32 | 1 | 36 |
| CANADA | 1 | 1 | | 3 | 2 | 1 | 6 | 1 | 9 |
| CHILE | | 1 | | 2 | 3 | | 5 | | 6 |
| COLOMBIA | | | | 2 | 3 | | 5 | | 5 |
| COSTA RICA | | | | | 1 | | 1 | | 1 |
| CUBA | | 1 | | | | | | | 1 |
| ECUADOR | | | | | 3 | | 3 | | 3 |
| GUATEMALA | | | | 1 | | | 1 | | 1 |
| MEXICO | 1 | 1 | 3 | 9 | 9 | 2 | 23 | 1 | 26 |
| PERU | 1 | | 1 | 4 | 4 | | 9 | | 10 |
| URUGUAY | 1 | | | 3 | 2 | | 5 | | 6 |
| VENEZUELA | 1 | | | 2 | 4 | 1 | 7 | | 8 |
| **TOTAL OTHER AMERICAS** | **5** | **8** | **8** | **50** | **49** | **5** | **113** | **4** | **131** |
| **JAPAN** | **2** | **14** | **7** | **12** | **15** | **18** | **52** | **13** | **81** |
| ***OTHER ASIA*** | | | | | | | | | |
| BANGLADESH | | 2 | | 1 | | | 1 | | 3 |
| INDIA | 1 | 12 | 3 | 9 | 15 | | 27 | | 40 |
| INDONESIA | | 2 | | 5 | 9 | | 14 | | 16 |
| KOREA, REP. OF | 1 | 1 | 2 | 5 | 10 | 1 | 18 | | 20 |
| MALAYSIA | | | 2 | | 3 | | 5 | | 5 |
| PAKISTAN | 1 | | | 3 | 9 | | 12 | | 13 |
| PHILIPPINES | | 1 | | 2 | 2 | | 4 | | 5 |
| SRI LANKA | | | | 1 | | | 1 | | 1 |
| TAIWAN | | 2 | 3 | 14 | 17 | | 34 | | 36 |
| THAILAND | | 1 | | 3 | 4 | | 7 | | 8 |
| **TOTAL OTHER ASIA** | **3** | **21** | **10** | **43** | **69** | **1** | **123** | | **147** |
| ***MIDDLE EAST, AFRICA & OCEANIA*** | | | | | | | | | |
| AUSTRALIA | | | | 3 | 2 | 1 | 6 | 1 | 7 |
| EGYPT | | 2 | | 1 | 2 | | 3 | | 5 |
| IRAN | | | 1 | 2 | 1 | | 4 | | 4 |
| IRAQ | | 1 | | | | | | | 1 |
| ISRAEL | | | 1 | 1 | | | 2 | | 2 |
| KENYA | | | | 1 | 5 | | 6 | | 6 |
| NIGERIA | | | | | 1 | | 1 | | 1 |
| SOUTH AFRICA | | | | 1 | 4 | | 5 | | 5 |
| TANZANIA | | | | | 1 | | 1 | | 1 |
| **TOTAL MIDDLE EAST, AFRICA & OCEANIA** | | **3** | **2** | **9** | **16** | **1** | **28** | **1** | **32** |
| **WORLD TOTAL*** | **22** | **98** | **58** | **227** | **256** | **52** | **593** | **61** | **774** |

Planned facilities indicated by an asterick (*) in our listing of worldwide producers are not included in the above table.

* Data for China, PRC, North Korea & U.S.S.R. are not included here. The following plants are listed in the directory:

| | Cellulosic | Acrylic | Nylon | Polyester | Other | Glass Fiber |
|---|---|---|---|---|---|---|
| China, PRC | 9 | 9 | 12 | 20 | 8 | 3 |
| U.S.S.R. | 19 | 3 | 12 | 4 | 1 | 11 |

a. Acetate includes triacetate.
b. Acrylic includes modacrylic.
c. Nylon excludes aramid.
d. Other includes 20 spandex, 5 saran, 5 vinyon, 4 aramid, 4 vinal, 3 biconstituent, 3 fluorocarbon, and 1 each of azlon, cupro, PBI, polyacrylate, polycarbonate, polychlal, polyiossamide and promix.

# 1988 WORLDWIDE DIRECTORY OF MAN-MADE FIBER PRODUCERS

## NOTES & DEFINITIONS

This directory of producers lists each country separately and is divided into the following categories:

(1) Cellulosic plus Noncellulosic fibers
(2) Olefin fiber
(3) Glass fiber

The locality shown represents a plant site.

The generic fiber names used in this survey are those established by the U.S. Federal Trade Commission (FTC). The *italicized* words are trademarks. All other fiber names are generic and appear in regular type.

• Indicates a company producing olefin fiber as well as other man-made fiber(s). For example, Mitsubishi Rayon Co. produces olefin fiber in Japan as well as acrylic and polyester. The acrylic and polyester entries for this company are in one section and the olefin entry is shown in the Olefin fiber section.

* Indicates a new plant, in the planning stage or under construction, or a new facility for producing a new product at an existing plant. Such facilities are not expected to be operable until 1989 or later.

**Yarn** means filament yarn.
**Monofil** means an extruded monofilament and may be either a round or rectangular (ribbon) cross-section. Monofilaments for bristles are excluded.
**Film** includes **Slit**: tape produced by slitting an already attenuated wide sheet of olefin film; and **Split:** fibrillated slit film.
***Not Included*** in this survey is the slit film used for decorative or tying ribbon and such.
**Captive** means that most or all of the fiber produced is consumed by the company in a vertical operation.

## GENERIC NAMES & TRADEMARKS

The following are generic names, in bold type, and a brief description of the fibers covered by each name is shown in regular type.

### GLASS FIBER

This fiber is made in two primary forms: continuous strand and staple sliver. Continuous strand is drawn fiber (i.e., from a textile-type bushing), while staple sliver, which is produced in relatively small amounts, is a blown fiber.

Glass fiber is produced and sold as filament yarn, strand, roving, mat, chopped strand, milled fiber and staple yarn & sliver. In addition, there are two primary uses for glass fiber: Textile, used by textile mills in conventional constructions (e.g., drapery and tire cord) or Non-Textile, used for nonconventional constructions (e.g., reinforced plastics and roofing shingles).

For additional information, see the definitions on page 250 of the November 1987 ***Textile Organon.***

### CELLULOSIC (ARTIFICIAL) FIBERS

**Acetate:** Cellulose acetate. Cigarette filtration tow is excluded.
**Triacetate:** Cellulose acetate, wherein not less than 92% of the hydroxyl groups are acetylated.
**Rayon:** Regenerated cellulose, including substitutions for not more than15% of the hydrogens of the hydroxyl groups. Includes high wet modulus fiber.
**Cupra:** Cuprammonium rayon.
The viscose rayon yarns are identified as **Ind** (industrial or high tenacity yarn) and **reg** (regular or textile yarn).

### NONCELLULOSIC (SYNTHETIC) FIBERS

**Acrylic:** At least 85% acrylonitrile by weight.
**Modacrylic:** 35% to 84% acrylonitrile by weight, except when it qualifies as rubber.
**Azlon:** Regenerated natural protein.
**Nylon:** A long-chain synthetic polyamide in which less than 85% of the amide linkages are attached directly to two aromatic rings. The types are identified as 6, 66, etc. Where a company produces both type 6 and 66, the designation 6/66 is used.
**Aramid:** A long-chain synthetic polyamide in which at least 85% of the amide linkages are attached directly to two aromatic rings.
**Olefin:** At least 85% ethylene, propylene or other olefin units by weight, except amorphous (noncrystalline) polyolefins qualifying as rubber. **E** means Polyethylene and **P** means Polypropylene. Also see adjoining notes on olefin fiber.
**Polyester:** At least 85% by weight of an ester of a substituted aromatic carboxylic acid, including but not restricted to substituted terephthalate units, and parasubstituted hydroxybenzoate units.
**Saran:** At least 80% vinylidene chloride by weight.
**Spandex:** At least 85% of segmented polyurethane.
**Vinal:** At least 50% by weight vinyl alcohol and wherein the vinyl alcohol plus acetal units are at least 85% by weight.
**Vinyon:** At least 85% vinyl chloride by weight.

Other man-made fibers included in this survey, but not listed by the FTC, are **Polycarbonate** (U.S.A.), **Polychlal** (Japan), **Promix** (Japan) and **TFE-&FEP-fluorocarbon** (Fluoro)(Japan, U.S.A. & U.S.S.R.).

Not covered in this survey are fibers which would fall under the FTC's generic designations of rubber, lastrile, metallic and novoloid. Fibers falling under the FTC designations of anidex and nytril are no longer produced.

Carbon fibers are not included in this survey.

International Standard #2076, "Generic Names of Man-Made Fibres," as established by the International Organization for Standardization, lists some 23 names, of which the following are similar to the FTC designations: cupro, viscose, acetate, triacetate, acrylic, modacrylic, nylon or polyamide, polyester and glass. The IOS also lists modal (regenerated cellulose obtained by processes giving a high tenacity and a high wet modulus), alginate (metallic salts of alginic acid), chlorofibre (similar to the FTC's saran and vinyon), elastane (similar to the FTC's spandex), elastodiene, fluorofibre, polycarbamide, polyethylene & polypropylene (similar to the FTC's olefin), polyurethane, trivinyl and vinylal (similar to the FTC's vinal).

## ALBANIA

(Producer not yet known)
Acrylic (staple)
Polyester (yarn & staple*)

## ARGENTINA

COAFI S.A.
Polyester Buenos Aires (yarn)

DUCILO S.A.I.C.
Nylon 66 Berazategui & Mercedes *Nylon Ducilo* (yarn)
Spandex Mercedes (fused multifil or coalesced monofil)

HISISA ARGENTINA S.A.I.C.I.F.
Acrylic Baradero *Cashmilon* (staple)

MANUFACTURAS DE FIBRAS SYNTETICAS (formerly Petroquimica Sudamericana)
Nylon 6 Olmos - Lapi (yarn)
Polyester Olmos - Lapi (yarn & staple)

MITEXTIL S.A.
Nylon 6 Buenos Aires (yarn)

M. NAHMIAS S.A.C.I.
Polyester Buenos Aires (yarn)

NICIEZA y TAVERNA HNOS. S.A.
Nylon 6 Chivilcoy *Grilon* (monofil)

RHODIA ARGENTINA QUIMICA e TEXTIL
Acetate Quilmes (yarn)
Polyester Quilmes *Tergal* (yarn)

SOCIEDAD NUEVAS INDUSTRIAS ARGENTINAS FIBRAS ARTIFICIALES S.A.I.C.F.I. (SNIAFA)
Nylon 6 Hernández-La Plata *Snialon* (yarn)
Rayon Plátanos (reg yarn & staple)

SUDAMTEX S.A. TEXTIL SUDAMERICANA
Polyester Azul *Acrocel* (staple)

VALENCIANA ARGENTINA S.A.
Nylon 6 Buenos Aires (yarn)

### OLEFIN FIBER

AGAPOL S.A. (P yarn)

MANUFACTURA FORTI ARGENTINA S.A.C.I.A.F.I. Buenos Aires (P yarn & staple)

PANAMERICA DE PLASTICOS S.A.I.C. Olivos (P staple)

PETROQUIMICA Cuyo, Mondoza (P yarn)

TEXTILYUTE S.A.I.C. Isidro Casanova (P film)

VINISA S.A.I.C. Buenos Aires *Rafistal, Strofil* (E & P monofil)

## ARGENTINA (continued)

### GLASS FIBER

VIDRIERIA ARGENTINA S.A. (VASA) Llavallol *Texover*

## AUSTRALIA

FIBREMAKERS LTD.
Biconstituent Mulgrave, Victoria *Front Runner* (melded fabric)
Nylon 66 Bayswater, Victoria *Bri-Nylon* (yarn & monofil), Penrith, N.S.W. (tire cord)
Polyester Bayswater *Terylene* (yarn, staple & tow)

UNITED CARPET MILLS PTY. LTD.
Nylon 6 Thomastown, Victoria *Unilon* (yarn)
Polyester Thomastown (yarn)

In addition to the above, VILENE AUSTRALIA reportedly produces spunbonded products at Minto, N.S.W.; these are believed to be principally based on cellulosic fiber, but some polypropylene may be used.

### OLEFIN FIBER

SARLON INDUSTRIES PTY. LTD Punchbowl, N.S.W. (E & P monofil & film)

### OLEFIN FILM FIBER, only

A. ABRAHAMS & SONS PTY. LTD. Clayton, Victoria (*Koala, Polytex*)

AMOCO FABRICS & FIBERS COMPANY, PATCHOGUE PLYMOUTH DIVISION Liverpool, N.S.W. *Poly Bac, Propex*

CORDEX INDUSTRIES PTY. LTD. Gladesville, N.S.W.

GEO. KINNEAR & SONS PTY. LTD. Footscray, Victoria (*Emu*)

H. J. PENNO Adelaide, South Australia

TAPEX PTY. LTD. Sydney, N.S.W.

### GLASS FIBER

ACI FIBREGLASS, A Unit of ACI Australia, Ltd. Dandenong, Victoria

## AUSTRIA

AUSTRIA FASERWERKE G.m.b.H.
Polyester Lenzing *Trevira* (staple)

CHEMIEFASER LENZING A.G.•
Fluoro Lenzing (yarn & staple)
Rayon Lenzing (staple)

## AUSTRIA (continued)

GLANZSTOFF AUSTRIA G.m.b.H. (formerly Enka-Austria)
Rayon — St. Pölten (ind & reg yarn)

LENZING A.G. •
Rayon — Lenzing *Lenzing Viscose*
Lenzing *Modal* (staple)
Fluoro — Lenzing *Lenzing PTFE* (yarn & staple)
Polyimid — Lenzing* *P84* (yarn & staple)

**OLEFIN FIBER**

CHEMIE LINZ A.G. Linz *Asota, Linz-PP-Multifil, Linz-PP-Viles* (P yarn, stapie & spunbonded)

LENZING A.G. Lenzing (P yarn)

M. TEUFELBERGER Wels

**OLEFIN FILM FIBER, only**

CHEMIEFASER LENZING A.G. Lenzing

SEUTTER Unter Eggendorf

## BANGLADESH

ASHUGANJ PETROCHEMICAL COMPLEX
Acrylic — Ashuganj* (staple)

BANGLADESH CHEMICAL INDUSTRIES
Rayon — (staple)

KARNAPHULI RAYON AND CHEMICALS LIMITED
Rayon — Chandraghona, Chittagong (reg yarn & staple)

PYLON INDUSTRIES LIMITED
Nylon 6 — Fouzdarhat Industrial Estate, Chittagong *Pylon* (yarn)

## BELGIUM

BAYER ANTWERPEN N.V.
Nylon 6 — Antwerpen *Dorix* (staple)

BEAULIEU-NYLON S.A. •
Nylon 6 — Kruishoutem, East Flanders (yarn & staple)

FABELTA NINOVE N.V.
Rayon — Ninove, East Flanders (reg yarn)

FABELTA ZWIJNAARDE S.A.
Nylon 66 — Zwijnaarde, East Flanders *Fabelnyl* (yarn)

HOECHST CELANESE
Acetate — Lanaken, Limburg (yarn)
Triacetate — Lanaken (yarn)

## BELGIUM (continued)

**OLEFIN FIBER**

DELOTEX (P staple)

N.V. FIBRILO Zele, East Flanders (P staple & film)

S.A. LA LOKEROISE Lokeren, East Flanders *Alpha Carpet, Delta Carpet* (P yarn, staple)

OSTEND S[illegible]RES & ROPEWORKS S.A. Ostend, West Flanders

POLYFIL N.[illegible] (Subsidiary of Beaulieu) Wielsbeke (P yarn)

ROGER VANDEN BERGHE N.V. Desselgem (P yarn)

T.T.C. POLYOLEFINS S.A. Overpelt, Limburg (P monofil)

**OLEFIN FILM FIBER, only**

N.V. JONCKVANSTEEN, Passendale

S.A. PHORMIUM, Zele, East Flanders

POLYTEXCO S.P.R.L., Beveren, Kortryk

S.A. U.C.O., Ledeberg, Gent

**GLASS FIBER**

N.V. BAYER S.A., Antwerpen

OWENS-CORNING FIBERGLAS EUROPE S.A. Battice, Liége *Fiberglas*

Cellulosic production and capacity data are combined with the Netherlands on pages 104 - 109. Noncellulosic production and capacity data are combined with the Netherlands and Luxembourg under "Benelux" on pages 100 - 101.

## BOLIVIA

HILANDERIA DE ACRÍLICOS Y FIBRAS SINTÉTICAS "HILBO"
Acrylic — La Paz

TEJEDURIAS PLANAS DE HILADOS DE FIBRAS ARTIFICIALES Y SINTÉTICAS "ESTATEX"
La Paz

TEJIDOS DE PUNTO "FENIX"
La Paz

TEXTURBOL TEXTURIZADORA BOLIVIANA
Polyester — La Paz (yarn)

## BRAZIL

ARTEPESCA - S.A. ARTIGOS DE PESCA DO NORDESTE •
Nylon 6 — Igarassu, Pernambuco (monofil)

## BRAZIL (continued)

BANYLSA TECELAGEM DO BRASIL S.A.
Nylon 6 — Aratú, Bahia (yarn)
Polyester — Aratú *Fio Banylsa Poliester* (yarn)

CELBRAS INDÚSTRIAS QÚIMICAS E TÊXTEIS S/A
Polyester — Pocos de Caldas, Minas Gerais *Fortrel* (staple)

CIA. NITRO QÚIMICA BRASILEIRA
Rayon — São Miguel Paulista, São Paulo (reg yarn)

COBAFI - CIA. BAHIANA DE FIBRAS
Nylon 6 — Camaçari, Bahia (yarn)
Polyester — Camaçari (yarn)

DE MILLUS S.A. INDUSTRIA E COMÉRCIO
Nylon 6 — Rio de Janeiro *Demilon* (yarn)

DU PONT S.A. INDÚSTRIAS QÚIMICAS
Spandex — Paulinia, São Paulo *Lycra* (fused multifil)

EQUIPESCA - EQUIPAMENTOS DE PESCA S.A.
Nylon 6 — Campinas, São Paulo (monofil)

FIBRA S.A.
Nylon 6 — Americana & Osasco, São Paulo *Lilion* (yarn)
Polyester — São Paulo ( yarn)
Rayon — Americana (reg yarn & staple)

FISIBA - FÍBRAS SINTÉTICAS DA BAHIA S.A.
Acrylic — Camaçari, Bahia *Triana* (staple)

HOECHST DO BRASIL QÚIMICA E FARMACÉUTICA S.A.
Polyester — Osasco *Trevira* (yarn & monofil)

INDUSTRIAS MATARAZZO DE FIBRAS SINTÉTICAS S.A.
Nylon 6 — São José dos Campos, São Paulo (yarn)

MANAP - MANUFATURA NACIONAL DE PLÁSTICOS •
Nylon 6 — Osasco, São Paulo *Caicara* (monofil)

MARCATTO S.A. IND. E COM. •
Nylon 6 — Jaraguá do Sul, Santa Catarina (monofil)

MAZZAFERRO POLIMEROS E FIBRAS SINTÉTICAS LTDA.
Nylon 6 — São Bernardo do Campo, São Paulo *Grilon, Trilon* (yarn & monofil)
Polyester — São Bernardo do Campo, São Paulo (monofil)

MONOFIL - CIA. INDUSTRIAL DE MONOFILAMENTOS •
Nylon 6 — São Paulo, São Paulo (monofil)

NOVELSPUMA - ESPUMA DE NYLON S.A.
Nylon 6 — São Paulo, São Paulo (yarn)

POLYENKA S.A.
Polyester — Americana, São Paulo *Diolen* (yarn)

## BRAZIL (continued)

POLYNOR S.A. INDÚSTRIA E COMÉRCIO DE FIBRAS SINTETICAS DA PARÁIBA
Polyester — João Pessoa, Paraiba *Amilon, Polynor* (yarn & staple)

RHODIA S.A.
Acrylic — São José dos Campos, São Paulo *Crylor* (staple)
Nylon 66 — Santo André *Dropnyl, Rhodianyl* (yarn & staple)
São Bernardo do Campo, São Paulo *Celtral BCF* (yarn)
Polyester — Santo André *Dropgal-Tergal, Tergal* (yarn & staple)
São José dos Campos *Bidim* (spunbonded)
São Bernardo do Campo *Fortrel* (yarn)
Rayon — São José dos Campos (staple)

RHODIA NORDESTE S.A.
Polyester — Cabo, Pernambuco *Dropgal, Tergal* ( staple)

SEARA IND. TÊXTIL LTDA. •
Nylon 6 — Londrina, Paraná (monofil)

SPUMAR S.A. INDÚSTRIA E COMÉRCIO •
Nylon 6 — São Paulo (yarn)

**OLEFIN FIBER**

ARTEPESCA - S.A. ARTIGOS DE PESCA DO NORDESTE
Igarassu, Pernambuco (E & P monofil)

BRASIL VISCOSE S.A. Jundiapeba, São Paulo (P staple)

ETRÚRIA S.A. INDÚSTRIA DE FIBRAS E FIOS SINTÉTICOS
Mairinque, São Paulo (P staple)

FADEMAC - FABRICA DE MATERIAIS DE CONSTR. S.A.
Jacarei, São Paulo (P staple)

FITESA - FIAÇAO TÊXTIL DE EMBALAGENS PLÁSTICAS S.A.
Guaiba, Rio Grande do Sul (P staple) & Porto Alegre, Rio Grande do Sul (P film)

INYLBRA S.A. TAPETES E VELUDOS Diadema, São Paulo (P staple)

MANAP - MANUFATURA NACIONAL DE PLÁSTICOS
Osasco, São Paulo (P monofil)

MARCATTO S.A. IND. E COM. Jaragua do Sul, Santa Catarina (E & P monofil)

MONOFIL - CIA. INDUSTRIAL DE MONOFILAMENTOS
São Paulo, São Paulo (P monofil)

SEARA IND. TÊXTIL LTDA. Londrina, Paraná (E & P monofil)

SPUMAR S.A. INDÚSTRIA E COMÉRCIO São Paulo, *Fibrilene, Polylene, Polypian, Prolene* (P yarn, staple & film)

## BRAZIL (continued)

TAPETELENE - INDÚSTRIA S.A. Pajucara/Maramguape Ceará (P staple)

TINTORIA S.A. - BENEFICIAMENTO DE FIO (P yarn)

**OLEFIN FILM FIBER, only**

BRASMEN TOL CACAPAVA S.A., Cacapava, São Paulo

CACIQUE DE EMBALAGENS S.A. INDÚSTRIA E COMÉRCIO, Londrina, Paraná

C.A.T.A. - CIA. AMAZONIA TÉXTIL DE ANIAGEM S.A., Belém, Pará

CIA. FAB. YOLANDA S.A., Récife, Pernambuco

CIA. JAUENSE INDUSTRIAL, Jau, São Paulo

CIA. UNÍAO MANUFATORA DE TECIDOS, Rio de Janeiro

DICOPLAST S.A. INDÚSTRIA E COMÉRCIO DE PLASTICOS, Presidente Prudente, São Paulo

EMPLA - EMBALAGENS PLÁSTICAS S.A., Rio de Janeiro

FIBRASA IND. E COM. DE FIOS E EMBALAGENS S.A., Espirito Santo

FIBROTEX TECELAGEM DE FIBRAS S.A., São Paulo

IMPLASA - INDÚSTRIA DE PLÁSTICOS ZANIOLO S.A., São José dos Pinhais, Paraná

INDÚSTRIA TÉXTIL TSUZUKI LTDA., Suzano, São Paulo

IPLAC DO BRASIL S.A. PLÁSTICOS, Fortaleza, Ceará*

NOVOPLAST IND. E COM. DE PLÁSTICOS, Nova Odessa, São Paulo

PLABASA - PLÁSTICOS DA BÁHIA S.A., Salvador, Bahiá

PLASMINAS - PLÁSTICOS MINAS LTDA., Tres Pontas, Minas Gerais

PLÁSTICOS DO PARANÁ LTDA., Londrina, Paraná

PLÁSTICOS LINIL S.A., Récife, Pernambuco

PLÁSTICOS INDÚSTRIA DE EMBALAGENS LTDA., Campinas, São Paulo

QUALITAS IND. E COM. LTDA., São Paulo

SACOPLAST/PLANOSA - PLÁSTICOS DO NORDESTE S.A., Natal, Rio Grande do Norte

**GLASS FIBER**

OCFIBRAS Rio Claro, São Paulo *Fiberglas*

## BULGARIA

KOMBINAT "DIMITAR DIMOV" •

| | |
|---|---|
| Acrylic | Burgas *Bulana* (staple) |
| Nylon 6 | Vidin *Vidlon* (yarn) |
| Polyester | Yambol *Yambolen* (yarn, staple & tow) |

KOMBINAT "SVILOSA"

| | |
|---|---|
| Rayon | Svishtov (reg yarn & staple) |

**OLEFIN FIBER**

KOMABINÁT "DIMITAR DIMOV" Yambol (P staple)

## CANADA

BASF FIBRES INC.

| | |
|---|---|
| Nylon 6 | Amprior, Ontario *Zefran* (yarn & staple) |

CELANESE CANADA INC.

| | |
|---|---|
| Acetate | Drummondville, Quebec (yarn) |
| Polyester | Millhaven, Ontario *Fortel* (yarn, staple, tow & fiberfill) |

COURTAULDS (CANADA) LIMITED

| | |
|---|---|
| Rayon | Cornwall, Ontario (staple) |

DU PONT CANADA INC. •

| | |
|---|---|
| Nylon 66 | Kingston, Ontario *Antron, Cantrece, Du Pont* (yarn, staple & tow) |
| Polyester | Kingston *Dacron* (yarn) |
| Spandex | Maitland *Lycra* (fused multifil) |

FIRESTONE TEXTILES CO.-A DIVISION OF FIRESTONE CANADA LTD.-LTEE

| | |
|---|---|
| Nylon 6 | Woodstock, Ontario (yarn & monofil) |

**OLEFIN FIBER**

AMOCO FABRICS & FIBERS CO. Brantford & Hawkesbury, Ontario, St. Jean, Quebec *Protel* (P yarn, staple, E & P monofil & P film)

CALKO MILLS LTD. Rivière du Loup, Quebec (P monofil)

CANADA WESTERN CORDAGE CO., LTD. New Westminster, B.C. (P monofil)

DOON TWINES LTD. Kitchener, Ontario (P yarn, monofil & staple)

DU PONT CANADA INC. North Bay, Ontario (P film)

GUELPH TWINES LTD. Guelph, Ontario (P monofil & film)

NOVASTRAND St. John, New Brunswick (P monofil)

POLI-TWINE CORP. LTD. Belleville, Ontario & Saskatoon, Saskatchewan *Polytie, PolyTwine, Spiralok* (P monofil)

SCHLEGEL COMPANY CANADA Oakville (P monofil)

## CANADA (continued)

STRUDEX FIBRES LTD., DIVISION OF KRAUS CARPET MILLS LTD. Waterloo (P yarn & staple - captive)

**OLEFIN FILM FIBER, only**

FIBERWORLD, LTD. Hawkesbury, Ontario

POLYMER INTERNATIONAL (N.S.) LTD. Truro, N.S.

**GLASS FIBER**

FIBERGLAS CANADA LIMITED Guelph, Ontario *Fiberglas*

## CHILE

GOODYEAR DE CHILE, S.A.I.C.
Nylon 6 — Maipú, Santiago (yarn & monofil)

INDUSTRIAS QUIMICAS GENERALES S.A.
Rayon — Quillota, Valparaiso (ind yarn & staple)

LANERA AUSTRAL S.A.
Polyester — Santiago (yarn, staple & tops)

MANUFACTURAS SUMAR S.A.
Nylon 6 — El Pinar 172, Santiago *Crilobal* (yarn)
Polyester — El Pinar 172 *Poligal* (yarn & staple )

QUIMICA INDUSTRIAL S.A.
Polyester — Maipú, Santiago *Polycron* (staple & tops)

## CHINA, PEOPLE'S REPUBLIC OF

Although reliable information on locations of man-made fiber plants in the People's Republic of China is not available, every effort has been made to make the following listing as complete as possible.

**RAYON and/or ACETATE PLANTS** reported at:
Amoy, Antung, Canton, Foshan, Kirin, Nanchang, Nanking, Paoting and Shanghai.
**NYLON PLANTS** reported at:
Beijing; Changsha*, Hsinhsiang, Paoting Province; Jinzhou; Liaoyang; Pingdings; Shanghai; Shanyi; Sian; Sichuan; Sining; Tianjin and Zhenjiang.
**POLYESTER PLANTS** reported at:
Beijing; Changzhou, Jiangsu Province; Fangshen, Beijing Province; Guangdong Province; Guangzhou, Canton Province; Hangchow; Heilongjiang; Henan*; Jinshan, Shanghai Province; Liaoyang; Nantong; Nanjing, Jiangsu Province; Shanghai; Sichuan; Taiyuan; Tianjin; Tientsin; Xiamen, Funjion Province; Xinhu; Yizheng and Zhenjiang.
**ACRYLIC PLANTS** reported at:
Anquing, Anhui Province; Chenchiang, Harbin Province; Daquing; Fushun; Lanzhou; Luda; Maoming; Qinhuangdao; Shanghai and Zibo.
**NONCELLULOSIC PLANTS** reported at:
Beijing (vinal); Canton (vinyon); Chunking (vinyon); Foochow (vinyon); Lanzhou (olefin & vinal); Shanghai (vinyon); Shengli (vinyon) and Tientsin (vinyon).

The following three plants have been reported as producing glass fiber: Shanghai Glass Fiber Plant, Shanghai Tungfanghung Glass Fiber Plant and Tientsin Glass Fiber Plant.

## COLOMBIA

COLTEFIBRAS S.A.
Polyester — Igatui, Antioquia* (yarn & staple)

ENKA DE COLOMBIA S.A.
Nylon 6 — Girardota, Antioquia *Enkalon* (yarn)
Polyester — Girardota *Terlenka* (yarn & staple)

FABRICA DE HILAZAS VANYLON S.A.
Nylon 6 — Barranquilla, Atlántico *Vanylon* (yarn & monofil)

POLIMEROS COLOMBIANOS S.A.
Polyester — Medellin, Antioquia *Primal* (yarn, staple, tow & tops)

ZYLETTE (LAFAYETTE)
Polyester — Bogotá (yarn)

**OLEFIN FILM FIBER, only**

COMPANIA NACIONAL DE EMPAQUES S.A. Medellin

PLASTICOS DE MAGDELENA LTDA. Santa Marta

POLYMER DE COLOMBIA S.A. Cartagena

## COSTA RICA

OLYMPIC FIBERS, S.A.
Polyester — San Antonio de Belén (yarn)

## CUBA

INDUSTRIAS CONSOLIDADAS DE MATANZAS, S.A.
Rayon — Matanzas (ind & reg yarn & staple)

## CYPRUS

**OLEFIN FIBER**

LORDOS POLYSAC (LIMASSOL) LIMITED Limassol (P film)

## CZECHOSLOVAKIA

CHEMICKÉ ZÁVODY JURAJA DIMITROVA, N.P.*
(GEORGE DIMITROV CHEMICAL WORKS, NATIONAL CORP.)
Rayon — Bratislava, Slovakia (reg yarn & staple)

CHEMLON, N.P. (CHEMLON, NATIONAL CORPORATION)
Nylon 6 — Humenné, Slovakia *Chemlon* (yarn)

CHEMOPETROL
Rayon — Neratovice (yarn)

## CZECHOSLOVAKIA (continued)

CHEMOSVIT, N.P. (CHEMOSVIT, NATIONAL CORPORATION) •

| | |
|---|---|
| Nylon 6 | Svit, Slovakia *Svitontex* (yarn & staple) |
| Rayon | Svit (reg yarn) |

SEVEROCESKÉ CHEMICKÉ ZÁVODY, N.P. (NORTH BOHEMIAN CHEMICAL WORKS, NATIONAL CORP.)

| | |
|---|---|
| Rayon | Lovosice, Bohemia (ind yarn) |

SILON, N.P. (SILON, NATIONAL CORPORATION)

| | |
|---|---|
| Nylon 6 | Planá nad Luznici, Bohemia *Silon* (yarn & monofil) |
| Polyester | Planá nad Luznici *Tesil, Tevyro, Velana* (staple, tow & fiberfill) |

SLOVENSKÝ HODVÁB, N.P. (SLOVAKIAN FILAMENT YARN, NATIONAL CORPORATION)

| | |
|---|---|
| Polyester | Senica nad Myjavou, Slovakia *Slotera* (yarn) |
| Nylon | Senica nad Myjavou (reg yarn) |

SPOLANA, N.P. (SPOLANA, NATIONAL CORPORATION)

| | |
|---|---|
| Rayon | Neratovice, Bohemia (staple) |

**OLEFIN FIBER**

CHEMICKÉ ZÁVODY JURAJA DIMITROVA, N.P. Bratislava *Istrona, Labren, Nobelex* (P yarn & staple)

CHEMOSVIT, N.P. Svit *Prolen, Texizol* (P yarn & spunbonded)

JUTA, N.P. Úpice, Bohemia (P spunbonded)

**OLEFIN FILM FIBER, only**

JUTA, N.P. Adamov, Moravia and Bernartice u Trutnova, Dvur Králové, Jilemnice & Úpice, Bohemia

POVAZSKE CHEMICKÉ ZÁVODY, N.P. Zilina, Slovakia

TECHNOLEN, N.P. Lomnice nad Popelkou, Bohemia

**GLASS FIBER**

SKLOPLAST, N.P. (SKLOPLAST, NATIONAL CORPORATION) Trnava, Slovakia (yarn, chopped strand & mat)

VERTEX, N.P. (VERTEX, NATIONAL CORPORATION) Litomysl, Bohemia (yarn, roving, mat & staple yarn)

## DENMARK

**OLEFIN FIBER**

A/S FIBERTEX Aalborg (P staple)

ESBJERG TOVVAERKSFABRIK A/S Esbjerg *Westflex* (E & P monofil & film; P staple)

## DENMARK (continued)

JACOB HOLM VARDE A/S Varde *Danaklon, IHS* (E & P staple & film), *Krenit* (P reinforcing fiber )

**OLEFIN FILM FIBER, only**

R.F.W. PLAST-INDUSTRI A/S Vejle

ROBLON A/S Frederikshavn

## EQUADOR

ECUATORIANA DE TEJIDOS DE PUNTA

| | |
|---|---|
| Polyester | Punta (yarn) |

ENKADOR S.A.

| | |
|---|---|
| Polyester | Sangolqui, Pichincha (yarn) |

FIBRATEX S.A.

| | |
|---|---|
| Polyester | Guayaquil, Guayas (yarn) |

## EGYPT

ESTABLISSEMENTS INDUSTRIELS POUR LA SOIE ET LE COTON S.A.A. (E.S.C.O.)

| | |
|---|---|
| Rayon | Cairo (reg yarn) |

MISR AL-AMIRIYA INDUSTRIAL FIBRE CO.

| | |
|---|---|
| Polyester | Amiriya (yarn* & staple) |

SOCIETE MISR POUR LA RAYONNE S.A.A. (MISR RAYON CO.)

| | |
|---|---|
| Nylon 6 | Kafr-el-Dawar *Misrnylon* (yarn), *Misrnylon* (staple) |
| Polyester | Kafr-el-Dawar *Polymisr* (yarn) |
| Rayon | Kafr-el-Dawar (reg yarn & staple) |

## EL SALVADOR

**OLEFIN FIBER**

FILAMENTOS Y PERFILES, S.A. (FILPERSA) San Salvador *Duraplen* (E & P monofil)

SALVAPLASTIC, S.A. San Salvador (P monofil

## FINLAND

FINEFIBRE OY

| | |
|---|---|
| Nylon 66 | Tornio (yarn) |

KEMIRA OY SATERI

| | |
|---|---|
| Rayon | Valkeakoski (staple) |

## FINLAND (continued)

**OLEFIN FILM FIBER, only**

MANILLA OY Turku

PIIPPO OY Lempäälä

**GLASS FIBER**

A. AHLSTROM OY GLASSFIBRE Karhula *Kuitulasi* (roving & mat)

## FRANCE

CELLATEX (a subsidiary of Rhône-Poulenc-Textile)
Rayon — Givet, Ardennes; Grenoble, Isère (reg yarn)

COURTAULDS S.A.
Acrylic — Pont du Leu, Coquelles, Pas-de-Calais *Courtelle* (staple)
Rayon — Pont du Leu (staple)

NYSAM S.A.
Nylon 6 — St. Quentin, Aisne *Lilion* (yarn)

RHÔNE-POULENC-FIBRES (a subsidiary of Rhône-Poulenc-Textile)
Nylon 66 — Albi, Tarn; St. Laurent-Blangy, Pas-de-Calais, St. Quentin, Aisne & Valance, Drôme *Nylfrance* (yarn & staple)
Polyester — Gauchy, Aisne & Valence *Bidim* (spunbonded), *Tergal* (yarn & staple)

RHOVYL (a subsidiary of Rhône-Poulenc-Textile)
Vinyon — Tronville-en-Barrois, Meuse *Clévyl, Rhovyl, Thermovyl* (yarn & staple)

SOCIETE CHOMARAT
Nylon 6 — Mariac (yarn - captive)

**OLEFIN FIBER**

PLASTIQUE DE ROUBAIX Roubaix (P film & staple)

SODOCA FABRICATION DE NONTISSES SYNTHETIQUES S.A.R.L. Neuf Brisach, Haut-Rhin (P spunbonded)

**OLEFIN FILM FIBER, only**

ETS. AMMANN & CIE. Saint-Louis

ETS. BATAILLE Rosendael

BIHR FRERES S.A. Xertigny

BOUSSAC SAINT FRERES S.A. Flixecourt

SEINE & LYS Paris

## FRANCE (continued)

**GLASS FIBER**

OWENS-CORNING FIBERGLAS FRANCE S.A. L'Ardoise, Gard *Fiberglas*

VETROTEX SAINT-GOBAIN Chambéry, Savoie-Fils et Fibres de Renforcement *Vetrotex*

## GERMAN DEMOCRATIC REPUBLIC
DEUTSCHE DEMOKRATISCHE REPUBLIK (EASTERN)

(Those facilities indicated by # are part of the trust VEB Chemiefaserkombinat Schwarza "Wilhelm Pieck".)

CHEMIEFASERWERK "FRIEDRICH ENGELS" #
Acrylic — Premnitz, Krs. Rathenow *Wolpryla* (staple)
Nylon 6 — Premnitz *Dederon* (staple)
Polyester — Premnitz *Grisuten* (staple)
Rayon — Premnitz (reg yarn)

CHEMIEFASERWERK "WILHELM-PIECK-STADT" GUBEN #
Nylon 6 — Guben *Dederon* (yarn & monofil)
Polyester — Guben *Grisuten* (yarn)

KUNSTSEIDENWERK "CLARA ZETKIN, ELSTERBERG" #
Rayon — Elsterberg, Krs. Greiz (reg yarn)

SACHSISCHES KUNSTSEIDENWERK "SIEGFRIED RADEL" #
Polyester — Pirna" (yarn)
Rayon — Pirna (ind, reg & cupra yarn)

SACHSISCHE ZELLWOLLE #
Rayon — Plauen (staple)

SPINNSTOFFWERK "OTTO BUCHWITZ" #
Rayon — Glauchau (staple)

VEB CHEMIEFASERKOMBINAT SCHWARZA "WILHELM PIECK"
Nylon 6 — Schwarza, Krs Rudolstadt *Dederon* (yarn)
Rayon — Schwarza (staple)

VEB FILMFABRIK FOTOCHEMISCHES KOMBINAT
Acrylic — Wolfen, Krs. Bitterfeld *Wolpryla* (staple)
Rayon — Wolfen (ind yarn & staple)
Vinyon — Wolfen *Piviacid* (staple)

ZELLSTOFF-UND ZELLWOLLWERKE WITTENBERGE #
Rayon — Wittenberge (staple)

**GLASS FIBER**

VEB GLASSEIDENWERK *Oschatz Glasseidengewebe, Glasseiden-Roving, Glasseiden-Stapelbindermatten, Glasseiden-Twist, Glasseiden-Zwirn, Roving-Gewebe*

## GERMANY, FEDERAL REPUBLIC OF
BUNDESREPUBLIK DEUTSCHLAND (WESTERN)

BAYER A.G.

| | |
|---|---|
| Acrylic | Dormagen *Bayer-Textilfaser Dralon* (yarn & staple) |
| Nylon 6 | Dormagen *Perlon-Draht* (monofil) |
| Spandex | Dormagen *Bayer-Textilfaser Dorlastan* (fused multifil) |

BOLTA WERKE G.m.b.H.

| | |
|---|---|
| Saran | Nürnberg *Bolta* (monofil) |

DEUTSCHE ICI G.m.b.H.

| | |
|---|---|
| Nylon 66 | Ostringen *Timbrelle* (yarn & staple) |
| Polyester | Ostringen *Terylene* (yarn) |

DU PONT DE NEMOURS (DEUTSCHLAND) G.m.b.H.

| | |
|---|---|
| Nylon 66 | Uentrop, Kreis Unna (yarn & staple) |
| Polyester | Uentrop *Dacron* (staple, tow & fiberfill) |

FIBERS AND POLYMERS DIVISION

| | |
|---|---|
| Nylon 6/66 | Obernburg *Enka Nylon* (yarn), *Enka Perlon* (yarn) |
| Polyester | Oberbruch & Obernburg *Diolen* (yarn) |
| Rayon | Kelsterbach, Oberbruch & Obernburg (ind & reg yarn) |

E. HAHL KG •

| | |
|---|---|
| Nylon 6 | Munderkingen (staple) |

FASERWERKE LINGEN G.m.b.H.

| | |
|---|---|
| Acrylic | Lingen *Bayer-Texilfasern Dralon* (staple) |

HOECHST A.G.

| | |
|---|---|
| Acrylic | Kelheim/Donau *Dolan* (staple) |
| Polyester | Bad Hersfeld, Hessen & Bobingen/Augsburg-land *Trevira* (yarn, staple & spunbonded), *Trevira-Draht* (monofil) |
| Rayon | Kelheim/Donau (staple) |

KUNERT

| | |
|---|---|
| Nylon 66 | Deggendorf (yarn) |
| Polyester | Deggendorf (yarn) |

LUTRAVIL SPINNVLIES •

| | |
|---|---|
| Nylon 6 | Kaiserslautern *Lutrabond* (spunbonded) |
| Polyester | Kaiserslautern *Lutradur* (spunbonded) |

NORDDEUTSCHE FASERWERKE G.m.b.H.

| | |
|---|---|
| Nylon 6/66 | Neumünster *SIKS NYLON* (yarn), *SIKS PERLON* (yarn & staple) |
| Polyester | Neumünster *Avitron* (yarn) |

PHOENIX GUMMIWERK A.G.

| | |
|---|---|
| Saran | Hamburg/Harburg *Harlan* (monofil) |

HEINRICH REINHOLD KG •

| | |
|---|---|
| Nylon 6 | Selbitz, Bayern (staple) |

## GERMANY, FEDERAL REPUBLIC OF (continued)
BUNDESREPUBLIK DEUTSCHLAND (WESTERN)

RHODIA A.G.

| | |
|---|---|
| Acetate | Freiburg/Br. *RHIAKABEL* (tow) |
| Nylon 66 | Freiburg/Br. & Rottweil a. N/Württ. *RHOA-fil Nyltest, RHOA-Spinnfaser, RHOA-tex HELANCA* (yarn & staple) |
| Polyester | Freiburg/Br. *RHOA-fil TERGAL, RHOA-tex TERGAL* (yarn) |

SPINNSTOFFABRIK ZEHLENDORF A.G.

| | |
|---|---|
| Polyester | Berlin-Zehlendorf *Trevira* (yarn & staple) |

WACKER-CHEMIE G.m.b.H.

| | |
|---|---|
| Vinal | München-Burghausen *Wacker MP-Faser* (staple) |

**OLEFIN FIBER**

J. F. ADOLFF A.G. Backnang (P film)

AMOCO FABRICS & FIBERS CO., DIVISION OF AMOCO (DEUTSCHLAND) G.m.b.H. Gronau (P film & staple)

J. H. BENECKE G.m.b.H. Peine *Corovin* (P spunbonded)

R. B. J. RUDOLF BILLERMANN KG Emsdetten (P yarn & staple)

CHEMISCHE WERKE HÜLS A.G. Marl, Kreis Recklinghausen, Westphalia *Vestolan* (E & P monofil)

DYNAMIT NOBEL A.G. Troisdorf, Bez. Köln *Trofil* (E & P monofil & tow)

DEUFIL Bergkamen (P yarn)

FASERWERKE BOTTROP G.m.b.H. Bottrop (P staple)

FÜSSENER TEXTIL A.G. Füssen (P film)

GEO. GLEISTEIN & SOHN Bremen-Vegesack (P film & monofil)

E. HAHL KG Munderkingen (P monofil)

HOECHST A.G. Bobingen, Augsburg-Land (P staple)

RUDOLF HILLER KG (P monofil)

LUTRAVIL SPINNVLIES Kaiserslautern *Lutrasil* (P spunbonded)

HEINRICH REINHOLD KG Selbitz/Bayern (P staple)

STEEN Hamburg (P staple)

WESTFALIA SPINNEREI U. KUNSTOFFWERK SCHEM KG Minden (P monofil & film)

**OLEFIN FILM FIBER, only**

BAUMHÜTER G.m.b.H. Wiedenbrück

## GERMANY, FEDERAL REPUBLIC OF (continued)

BUNDESREPUBLIK DEUTSCHLAND (WESTERN)

BREMER WOLL-KÄMMEREI Bremen-Blumenthal

ERNST JAEGER Düsseldorf-Reisholz

HEINZ G. JUNEMANN (NORDHESSISCHE HAARWARENFABRIK) Felsberg

KUSGA KUNSTOFFGARNE G.m.b.H. Mainz

POLYDRESS PLASTIC G.m.b.H. Michelstadt

POLYUNION KUNSTOFFWERK Mesum

SCHILGEN Emsdetten

SPOHN G.m.b.H Freiburg

B. T. F. TECKLENBORG & CO. Bremen-Grohn

DR. KARL WETEKAM & CO. Melsungen

**GLASS FIBER**

GEVETEX-TEXTILGLAS G.m.b.H. Aachen & Herzogenrath
*Fiberglas Vetrotex*

SCHULLER GLASWERK Westheim

## GREECE

ETMA S.A.
Nylon 6/66 Athens (yarn)
Rayon Athens (reg yarn)

HELLENIC SYNTHETICS INDUSTRY
Polyester Kalogreza (yarn)

POLYETMA LTD.
Polyester Athens (yarn)

VOMVICRYL S.A. (affiliate of "Vomvix" S.A.)
Acrylic Stylis, near Lamia (yarn, staple, tow & tops)

"VOMVIX" S.A.
Nylon 6/66 Athens (yarn)
Polyester Athens (yarn)

**OLEFIN FIBER**

VIOFARM Argos (P staple)

**OLEFIN FILM FIBER, only**

ARIPLAST S.A. Athens

BIOSISAL Athens

## GREECE (continued)

DESSILA Piraeus

ELVISAK Athens

MARINE ROPE Athens

OLYMPIC ROPES Piraeus

SISAL ROPERY Salonika

C. VELLIS HEIRS S.A. Piraeus

VESY S.A. SYNTHETIC MATERIALS INDUSTRY Piraeus

## GUATEMALA

HILOS SINTETICOS CENTROAMERICANOS, S.A.
Nylon 6 San José Pinula, Guatemala (yarn) (idle)

**OLEFIN FIBER**

CORDELERIA LA RAPIDA Guatemala, Guatemala (P monofil)

## HONDURAS

**OLEFIN FIBER**

POLYMER (subsidiary of United Brands) San Pedro Sula (P film)

## HUNGARY

MAGYAR VISCOSAGYÁR (Hungarian Viscose Factory) •
Acrylic Nyergesújfalu *Crumeron* (staple)
Nylon 6 Nyergesujfalu *Danamid* (yarn & staple)
Rayon Nyergesújfalu *Crumeron* (staple)

**OLEFIN FIBER**

GRABOPLAST Győr (P staple)

KENDER JUTA TEXTILIPARI V. Budapest (P film)

KENDERFONÓ ÉS SZÖVÖIPARI V. SZEGED Szeged (P film)

MAGYAR VISCOSAGYÁR Nyergesújfalu *Popril* (P staple)

SOPRONI SZÖNYEGGYÁR Sopron *Sopilen* (P yarn)

TISZA CHEMICAL COMBINE Lenin Varas (P staple)

## INDIA

ACME INVESTMENTS LTD.
Nylon 6 Panki Industrial Area, Kanpur* (yarn)

## INDIA (continued)

THE AHMEDABAD MFG. & CALICO PRINTING CO. LTD.
CALICO POLYESTER FIBRE DIV.

| | |
|---|---|
| Polyester | Baroda, Gujarat *Ilacron* (staple) |

ANDHRA PRADESH RAYONS LTD.

| | |
|---|---|
| Rayon | Kamalapuram, Warangal District, Andhra Pradresh* (staple) |

THE BARODA RAYON CORPORATION LIMITED

| | |
|---|---|
| Nylon 6 | Udhna, Gujarat *Snialon* (yarn) |
| Polyester | Udhna *Sniater* (yarn) |
| Rayon | Udhna (reg yarn) |

BONGAIGAON REFINERY AND PETROCHEMICALS LTD.

| | |
|---|---|
| Polyester | Goalpara, Assam* (staple) |

CENTURY ENKA LIMITED

| | |
|---|---|
| Nylon 6 | Bhosari, Pune, Maharashtra* *Enkalon* (yarn) |
| Polyester | Bhosari (yarn) |

CENTURY RAYON (Prop.: The Century Spg. & Mfg. Co. Ltd.)

| | |
|---|---|
| Rayon | Kalyan, near Bombay, Maharashtra (ind & reg yarn) |

GARWARE NYLONS LIMITED

| | |
|---|---|
| Nylon 6 | Pimpri, Pune, Maharashtra* *Garware* (yarn & monofil) |
| Polyester | Pimpri (yarn) |

THE GWALIOR RAYON SILK MFG. (WVG) CO. LIMITED

| | |
|---|---|
| Rayon | Birlagram, Nagda, Madhya Pradesh & Birlakootoam, Mavoor, Kerala (staple) |
| Polyester | Rajgarh*, Madhya Pradesh (staple) |

HARYANA PETROCHEMICALS LTD.

| | |
|---|---|
| Polyester | Rewari, Haryana* (yarn) |

INDIA POLYFIBRES

| | |
|---|---|
| Polyester | Parakandauli & Lucknow, Uttar Pradesh (staple) |

INDIAN EXPLOSIVES LTD.

| | |
|---|---|
| Polyester | Thane, near Bombay, Maharashtra *Terene* (staple) |

INDIAN ORGANIC CHEMICALS LIMITED

| | |
|---|---|
| Polyester | Manali, Madras, Tamil Nadu *Futura* (yarn & staple) |

INDIAN PETROCHEMICALS CORP. LTD.

| | |
|---|---|
| Acrylic | Vadodara, Baroda, Gujarat *Cashmilon* (staple) |

THE INDIAN RAYON CORPORATION LIMITED

| | |
|---|---|
| Rayon | Veraval, Gujarat (reg yarn) |
| Polyester | Broach (yarn*) |

J.K. RAYON, J.K. PURI

| | |
|---|---|
| Rayon | Kanpur, Uttar Pradesh (reg yarn) |

J.K. SYNTHETICS LIMITED

| | |
|---|---|
| Acrylic | Kota, Rajasthan *Jayacrylic* (staple) |
| Nylon 6 | Kota *Jayanka, Jaycord, Jaykalon* (yarn, monofil & staple) |
| Polyester | Calcutta, Kota, Orissa* *Jakaylene* (yarn & staple) |

## INDIA (continued)

JAGATJIT COTTON TEXTILE MILLS LTD.

| | |
|---|---|
| Nylon 6 | Hoshiarpur, Punjab (yarn) |
| Polyester | Hoshiarpur (yarn) |

KARNATAKA STATE INDUSTRIAL DEVELOPMENT CORPORATION LIMITED

| | |
|---|---|
| Nylon 6 | Karnataka* (yarn) |
| Polyester | Karnataka* (yarn & staple) |

KESORAM RAYON (Prop.: Kesoram Industries and Cotton Mills Ltd.)

| | |
|---|---|
| Rayon | Nayasarai, Hooghly, West Bengal (reg yarn) |

MODIPON LIMITED

| | |
|---|---|
| Nylon 6 | Modinagar, Uttar Pradesh *Modipon* (yarn) |
| Polyester | Modinagar (yarn) |
| Rayon | (staple*) |

THE NATIONAL RAYON CORPORATION LIMITED

| | |
|---|---|
| Nylon 6 | Mohone-Kalyan, near Bombay, Maharashtra* *N.R.C* (yarn) |
| Rayon | Mohone-Kalyan (ind & reg yarn) |

NIRLON SYNTHETIC FIBRES & CHEMICALS LIMITED

| | |
|---|---|
| Nylon 6 | Bombay, Maharashtra *Nircord, Nirlon* (yarn & monofil) |
| Polyester | Bombay *Nirester* (yarn) |

ORISSA SYNTHETICS LTD.

| | |
|---|---|
| Polyester | Orissa* (staple) |

ORKAY SILK MILLS PVT. LTD.

| | |
|---|---|
| Polyester | Patalganga, Maharashtra* (yarn) |

PARSURAM PURIA SYNTHETICS LTD.

| | |
|---|---|
| Polyester | Alwar, Rajasthan* (yarn) |

PASUPATI ACRYLON LIMITED

| | |
|---|---|
| Acrylic | Moradabad, Uttar Pradesh* (staple) |

PETROFILS COOPERATIVE LIMITED

| | |
|---|---|
| Polyester | Jawaharnagar, Baroda, Gujarat (yarn) |

PRADESHIYA INDUSTRIAL INVESTMENT CORPORATION OF UTTAR PRADESH

| | |
|---|---|
| Polyester | Uttar Pradesh* (yarn) |

PUNJAB STATE INDUSTRIAL DEVELOPMENT CORP. LTD.

| | |
|---|---|
| Acrylic | Punjab (staple) |
| Polyester | Punjab (staple) |

RELIANCE INDUSTRIES LTD.

| | |
|---|---|
| Polyester | Patalganga, Maharashtra* (yarn & staple*) |

SHREE SYNTHETICS LIMITED

| | |
|---|---|
| Nylon 6 | Naulakhi, Ujjain, Madhya Pradesh *Shreelon* (yarn) |
| Polyester | Naulakhi *Shreester* (yarn) |

SHRIRAM FIBRES LIMITED

| | |
|---|---|
| Nylon 6 | Manali, Madras, Tamil Nadu *Tufcord* (yarn) |

## INDIA (continued)

SHRIRAM RAYONS
Rayon — Kota, Rajasthan (ind yarn)
Nylon 6 — Kota (yarn)

THE SIRSILK LIMITED
Acetate — Sirpur-Kaghaznagar, Andhra Pradesh (yarn & staple)

SOUTH INDIA VISCOSE LIMITED
Rayon — Sirumughai, near Mettupalayam, Tamil Nadu (reg yarn & staple)

STRETCH FIBRES (INDIA) LIMITED
Nylon 6 — Nagpur, Maharashtra *SF* (yarn)

SWADESHI POLYTEX LIMITED
Polyester — Gaziabad, Uttar Pradesh *Jalene* (staple)

THAPAR DU PONT LTD.
Nylon — Goa* (ind yarn)

THE TRAVANCORE RAYONS LIMITED
Rayon — Rayonpuram, Kerala (reg yarn)

TUNGABHADRA FIBRES LTD.
Rayon — Tungabhadra, Andhra Pradesh (staple)

**OLEFIN FIBER**

AMITABH TEXTILE MILLS LTD. Dehra Dun, Uttar Pradesh* (P yarn)

ANIL KUMAR JAIN Ankleshwar, Gujarat* (P yarn)

GUJARAT FILAMENTS CORPORATION LTD. Baroda, Gujarat* (P yarn)

GUPTA NEEDLE INDUSTRIES PVT. LTD. Dharuhera, Haryana* (P yarn)

INDO SYNTHETICS CORP. (P yarn*)

J.K. BHAGAT Bhiwand, Alwar, Rajasthan* (P yarn)

KALYANI ASBESTOS CEMENT PVT. LTD. Kalol, Gujarat* (P yarn)

NEOMER LIMITED Baroda, Panchmahal, Gujarat *Proplon* (P staple)

NIAGARA INTERNATIONAL (P yarn*)

POLYPROP INDUSTRIES Dharuhera, Haryana* (P yarn)

POLYPROPYLENE INDIA, LTD. Uttar Pradesh* (P yarn)

RAJASTHAN PETROSYNTHETICS LTD. Udaipur, Rajasthan* (P yarn)

RAJENDRA V. PATEL Cambay, Gujarat* (P yarn)

SANJEEV SHRIYA Uttar Pradesh* (P yarn)

## INDONESIA

INDONESIA PENELITIAN SELULOSA (Cellulose Research Institute)

P.F. FIBRES e CHEMICALS
Nylon — (yarn)

P.T. BERKAT INDAH AGUNG
Rayon — Tangerang, West Java* (staple)

P.T. INDO-BHARAT RAYON
Rayon — Desa Cilangkap, Purwakarta (staple)

P.T. INDONESIA ASAHI CHEMICAL
Nylon 6 — Jatiluhur, Purwakarta, West Java (yarn)

P.T. INDONESIA TORAY SYNTHETICS
Nylon 6 — Tangerang, West Java (yarn)
Polyester — Tangerang (staple)

P.T. INDUSTRI SANDANG I
Polyester — Tangerang* (staple)

P.T. INDUSTRI SANDANG II
Rayon — South Sumatra* & West Kalimantan* (staple)

P.T. INTI
Rayon — West Kalimanton (staple*)

P.T. INTI INDAH RAYON UTAMA
Rayon — Sosorladang, N. Sumatra* (yarn)

P.T. KUMA FIBER (P.T. Kuraray Manunggal Fibre Industries)
Polyester — Cikokol, Tangerang, West Java (staple)

P.T. POLYSINDO EKA PERKASA
Polyester — Kaliwungu, Kendal, C. Java (staple)

P.T. SHINTA-INDAH DJAYA
Nylon 6 — Tangerang, West Java (yarn)
Polyester — Tangerang *Shinta* (yarn)

P.T. SOUTH PACIFIC VISCOSE
Rayon — Purwakarta, West Java (staple)

P.T. SUSILIA INDAH SYNTHETIC FIBRES INDUSTRIES
Polyester — Djakarta*, Tangerang, West Java (yarn & staple)

P.T. TEXMACO TAMAN SYNTHETIC
Polyester — Kaliwungu Kendal, West Java (yarn)

P.T. TIFICO (P.T. Teijin Indonesia Fibre Corp.)
Polyester — Tangerang, West Java (yarn & staple)

P.T. TOLARAM
Polyester — (yarn)

P.T. TRI REMPOA SOLO SYNTHETIC
Polyester — Rempon, Tangerang, West Java* (staple)

P.T. VASTEX BIMA INDUSTRIES
Polyester — Jalan Gedebage Ujungberung Bandung (yarn)

## INDONESIA (continued)

P.T. YASINTA
Polyester — Tangerang, West Java (yarn)

RAUMAQ ENTERPRISES
Nylon — (yarn)

## IRAN

PARSYLON CORPORATION
Nylon 6 — Khoram-Abad (yarn)

POLYACRYL IRAN CORPORATION
Acrylic — Isfahan (staple)
Polyester — Isfahan (yarn & staple)

SHERKAT SAHAMI ALIAF
Nylon 6 — Tehran *Aliaf* (yarn)

**OLEFIN FIBER**

JAHANCITT SPINNING & WEAVING CO. Tehran (P film)

## IRAQ

HINDIYA RAYON FACTORY
Rayon — Hindiya (reg yarn & staple)

**OLEFIN FIBER**

STATE ENTERPRISE FOR PLASTIC BAGS Tikrit

## IRELAND

ASAHI SYNTHETIC FIBRES (IRELAND) LTD.
Acrylic — Ballina, Mayon *Cashmilon* (staple)

LIRELLE (IRELAND) LTD. (A Division of Unifi, Inc.)
Polyester — Letterkenny *Lirelle* (yarn)

WELLMAN INTERNATIONAL LTD.
Nylon 6/66 — Mullagh, Kells, Meath *Wellon* (staple)
Polyester — Mullagh *Filwell, Wellene* (staple)

**OLEFIN FIBER**

F. DRAKE (IRELAND) LTD. Moate, Westmeath (P staple)

J. & L.F. GOODBODY (SYNTHETICS) LTD. Clara, Offaly (P yarn & film)

**OLEFIN FILM FIBER, only**

IRISH POLYSACKS LTD. Blarney, Cork

IRISH ROPES LTD. Newbridge, Kildare

POLYTEX LTD.

## ISRAEL

ISRAEL CHEMICAL FIBRES LIMITED
Acrylic — Ashdod (staple & tow)

NILIT
Nylon 66 — Migdal Ha-Emek (yarn)

## ITALY

ALBATESSILE S.p.A.
Polyester — Alba, Piemonte (yarn)

AQUAFIL S.p.A.
Nylon 6 — Arco di Trento, Trentino *Aqualon* (yarn)
Polyester — Arco di Trento (yarn)

BEMBERG S.p.A.
Nylon 6 — Gozzano, Piemonte *Ortalion* (yarn)
Cupro — Gozzano *Bemberg* (yarn)

CARPOL S.p.A.
Nylon 6 — Forli, Emilia Romagna (yarn)

ENICHEM FIBRE S.p.A. (formerly Anicfibre)
Acrylic — Ottana & Porto Torres, Sardegna *Euroacril, Sironil* (staple & tow)
Nylon 6 — Pisticci, Lucania *Nivion* (yarn & staple)
Polyester — Ottana *Fidion* (staple & tow)

FILATURA DI VAL LESINA S.p.A.
Polyester — Andalo Valtellino, Lombardia *Valena* (yarn)

FIMALON S.p.A.
Nylon 66 — Castelnuovo Valsugana, Trentino Alto Adige (yarn)

FORTEX SIDAC S.p.A.
Nylon 6 — Forli, Emilia Romagna *Forlion* (yarn)

FRATELLI FRANCHI S.p.A.
Nylon 6 — Canapale, Toscana *Frankilon* (yarn)
Polyester — Canapale *Frankilene* (yarn)

INDUSTRIE TESSILI VERCELLI S.p.A.
Acetate — Vercelli, Piemonte (yarn)

MONTEFIBRE S.p.A.
Acrylic — Porto Marghera, Veneto *Leacril* (staple & tow)
Polyester — Acerra, Campania *Terital* (yarn, staple & tow)

NOVACETA S.p.A.
Acetate — Magenta, Lombardia (yarn)

NUOVA RAYON ITALIA S.p.A.
Rayon — Rieti, Lazio (reg yarn)

RADICI FIL S.p.A.
Nylon 6 — Casnigo, Lombardia (yarn)

SETTE STELLE S.p.A.
Nylon 6 — Castelgoffredo, Lombardia (yarn)

## ITALY (continued)

SNIA FIBRE S.p.A.

| | |
|---|---|
| Acrylic | Cesano Maderno, Lombardia; Villacidro, Sardegna *Velicren, Velicren F.R.* (staple & tow) |
| Nylon 6/66 | Castellaccio, Lazio; Cesano Maderno & Varedo, Lombardia; Villacidro; Napoli, Campania *Coro Lilion Souple, Lilion Styl* (yarn, staple & tow) |
| Polyester | Napoli *Wistel, Wistel F.R.* (yarn) |
| Poliossamide | Cesano Maderno *Vivrelle* (staple) |

SOCIETÀ INDUSTRIALE CREMONESE S.p.A.

| | |
|---|---|
| Rayon | Pizzighettone, Lombardia (ind ;'am) |

STERE

| | |
|---|---|
| Polyester | Cardano al Campo, Lombardia (yarn) |

TERBOND S.p.A.

| | |
|---|---|
| Polyester | Pisticci, Lucania *Terbond* (spunbonded) |

TEXTILE PRODUKTE S.p.A.

| | |
|---|---|
| Nylon 6 | Villa D'Ogna, Lombardia (yarn & staple) |

TORCITURA DI BORGOMANERO S.p.A.

| | |
|---|---|
| Nylon 6 | Milano, Lombardia *Borgolon* (yarn) |

**OLEFIN FIBER**

EUROFIL Gandino, Lombardia (P staple)

FILATURA DI DELEBIO S.p.A. Delebio, Lombardia *Delebion* (P yarn)

FILLI FRANA Casnigo, Lombardia (P staple & film)

I.T.S. Legnano, Lombardia (P yarn)

MOPLEFAN (Formerly Himont Italia S.p.A.) Terni, Umbria *Meraklon* (P yarn & staple)

M.R. 81 Grassobbio, Lombardia (P yarn)

NOVASAR Caronno Pertusella, Lombardia (P yarn & staple)

POLYMECON Zibido S. Giacomo, Lombardia (P staple & tow)

SERGEL Casnigo, Lombardia (P staple)

TEXTILE PRODUKTE Villa D'Ogna, Lombardia (P staple)

**OLEFIN FILM FIBER, only**

CARPET BACKING S.p.A. Ceniga

DE MAGISTRIS EMILIO Bagnolo Cremasco

LICANA NORD S.p.A. Cassano d'Adda (Milano)

MILANPLAST s.r.l. Milano

MOPLEFAN S.p.A. Milano

## ITALY (continued)

NEOFIBRE s.r.l. Lendinara

SACHIM (MUMMOLO) Bari

S.E.A.L. S.p.A. Milano

S.I.S.A.L. S.p.A. Piacenza

STIROSIR S.p.A. Milano

TESSITURA LOMBARDA DI CONSONNI ELIA ALBIATE

**GLASS FIBER**

VETROTEX ITALIA S.p.A. Besana Brianza, Lombardia (mat), Fibras Di Rinforzo *VETROTEX*

VITROFIL S.p.A. Vado Ligure, Liguria

## JAPAN

ASAHI CHEMICAL INDUSTRY CO., LTD.

| | |
|---|---|
| Acrylic | Fuji *Cashmilon, Pewlon* (yarn & staple) |
| Nylon 6/66 | Nobeoka & Moriyama *Asahi Kasei Nylon, Leona* (yarn, monofil & spunbonded) |
| Polyester | Nobeoka & Moriyama *Asahi Kasei Ester* (yarn & spunbonded) |
| Rayon | Nobeoka (reg & cupra yarn, cupra staple & cupra spunbonded) |
| Saran | Suzuka (yarn, monofil & staple) |
| Spandex | Moriyama *Roica* |

DAIWABO RAYON CO., LTD.

| | |
|---|---|
| Rayon | Masuda (staple) |

FUJI SPINNING CO., LTD.

| | |
|---|---|
| Rayon | Toyo (staple) |
| Spandex | Kozakai *Fujibo Spandex* |

JAPAN EXLAN CO., LTD.

| | |
|---|---|
| Acrylic | Saidaiji *Exlan* (staple) |

KANEBO, LTD.

| | |
|---|---|
| Acrylic | Hofu *Kanebo Acryl* (staple) |
| Nylon 6 | Hofu *Kanebo Nylon* (uarn) |
| Polyester | Sabae *Kanebo Polyester* (yarn) |
| Spandex | Hofu *Kanebo Loobell* |

KANEBO RAYON, LTD.

| | |
|---|---|
| Rayon | Hofu (staple) |

KANEGAFUCHI CHEMICAL INDUSTRY CO., LTD.

| | |
|---|---|
| Modacrylic | Takasago *Kanecaron, Kanekalon* (staple & tow) |

KOHJIN CO., LTD.

| | |
|---|---|
| Polychlal | Yatsushiro *Cordelan* (staple) |
| Rayon | Yatsushiro (staple) |

## JAPAN (contunued)

KURARAY CO., LTD.

| | |
|---|---|
| Polyester | Saijo & Tamashima *Kuraray Polyester* (yarn & staple) |
| Rayon | Kurashiki, Saijo & Tamashima *Three Golden Horses* (reg yarn) |
| Vinal | Okayama *Kuralon* (yarn & staple) |

KUREHA CHEMICAL INDUSTRY CO., LTD.

| | |
|---|---|
| Saran | Mibu *Krehalon* (yarn, monofil & staple) |
| Vinyon | Mibu *Vicion* (monofil) |

MITSUBISHI ACETATE CO., LTD.

| | |
|---|---|
| Acetate | Toyama (yarn & tow) |
| Triacetate | Toyama (yarn) |

MITSUBISHI RAYON CO., LTD. •

| | |
|---|---|
| Acrylic | Otake *Finel, Silpalon, Vonnel* (yarn & staple) |
| Polyester | Toyohashi *Soluna* (yarn), Lunaace (staple) |

NIPPON ESTER CO., LTD.(subsidiary of Unitika, Kanebo and Mitsubishi Chemical Industry)

| | |
|---|---|
| Polyester | Okazaki & Sabae *Unitika Ester, Kanebo Ester* (yarn & staple) |

NISSHINBO INDUSTRIES, INC.

| | |
|---|---|
| Rayon | Tokushima (staple) |
| Spandex | Tokushima *Mobilon* |

NITIVY CO., LTD.

| | |
|---|---|
| Vinal | Fujieda *Niti-Vilon, Solvron, Vilon* (yarn) |

OMIKENSHI CO., LTD.

| | |
|---|---|
| Rayon | Kakogawa (yarn & staple) |

TEIJIN LTD.

| | |
|---|---|
| Aramid | Iwakuni & Matsuyama *Technora, Teijinconex* (yarn & staple) |
| Nylon 6 | Mihara *Teijin Nylon* (yarn) |
| Polyester | Iwakuni, Matsuyama & Tokuyama *Teijin-Tetoron* (yarn & staple) |
| Vinyon | Iwakuni *Teviron* (yarn) |

TEIJIN ACETATE LTD. (subsidiary of Teijin Ltd.)

| | |
|---|---|
| Acetate | Matsuyama (yarn) |

TOHO RAYON CO., LTD.

| | |
|---|---|
| Acrylic | Mishima *Beslon* (staple & tow) |
| Rayon | Tokushima *Tovis* (staple) |

TORAY- DU PONT COMPANY LTD.

| | |
|---|---|
| Spandex | Shiga *Opelon* (fused multifil) |

TORAY INDUSTRIES, INC.

| | |
|---|---|
| Acrylic | Ehime *Toraylon* (staple) |
| Nylon 6 | Aichi, Ishikawa*, Nagoya, Okazaki & Shiga *Amilan,Toray Nylon* (yarn & staple) |
| Nylon 6/66 copolymer | Aichi *Tapilon* (yarn) |
| Nylon 66 | Aichi, Ishikawa & Okazaki *Promilan* (yarn) |
| Polyester | Ehime, Ishikawa, Mishima & Okazaki *Toray Tetoron* (yarn & staple) |

TORAY-MONOFILAMENT CO., LTD.

| | |
|---|---|
| Nylon 6 | Okazaki *Toray Nylon* (monofil) |

## JAPAN (continued)

TOYO CHEMICAL CO., LTD.

| | |
|---|---|
| Vinyon | Otuna *Envilon* (yarn & monofil) |

TOYOBO CO., LTD. •

| | |
|---|---|
| Nylon 6 | Tsuruga *Toyobo Nylon* (ind & reg yarn) |
| Polyester | Iwakuni & Tsuruga *Toyobo Ester* (yarn, staple & spunbonded) |
| Promix | Tsuruga *Chinon* (yarn) |
| Rayon | Iwakuni *Tufcel* (staple) |
| Spandex | Tsuruga *Espa* |

TOYOBO PETCORD CO., LTD.

| | |
|---|---|
| Polyester | Tsuruga *Toyobo Petcord* (ind yarn) |

UNITIKA LTD.

| | |
|---|---|
| Nylon 6 | Uji *Unitika Nylon* (yarn, monofil & staple) |
| Polyester | Okazaki *Ester Marix* (ind yarn & spunbonded) |

UNITIKA KASEI CO., LTD.

| | |
|---|---|
| Vinal | Sakoshi (Akoh City) *Mewlon* (yarn, monofil & staple) |

UNITIKA RAYON CO., LTD.

| | |
|---|---|
| Rayon | Okazaki & Uji (ind & reg yarn) |

YOSHIDA KOGYO K.K.

| | |
|---|---|
| Polyester | Kurobe (yarn) |

**OLEFIN FIBER**

ASAHI CHEMICAL INDUSTRY CO., LTD. Moriyama (P spunbonded)

CHISSO POLYPRO FIBER CO., LTD. Moriyama *Chisso Polypro, ES Fiber* (P yarn & staple)

DAIWABO CO., LTD. Harima *Daiwabo Polypro, NBF Fiber* (E & P staple)

HAGIHARA INDUSTRY CO., LTD. Kurashiki (E monofil & film)

HIRATA SPINNING CO., LTD. Yokkaichi *Hiralon* (E & P yarn & monofil)

INABA SEIKO, LTD. Gamagori (E monofil)

KANEYA SEIKO, LTD. Hokkaido & Kushiro (E & P monofil)

KUREHA CHEMICAL INDUSTRY CO., LTD. Mibu *Kureha Polypropylene* (P monofil)

MARUAI CO., LTD. Toyohashi (E monofil)

MITSUBISHI RAYON CO., LTD. Toyohashi *Mitsubishi Pylen* (P yarn & staple)

NAGANO KAKO CO., LTD. Nagano (E monofil)

SHOWA POLYMER CO., LTD. Ibaraki (E monofil & film)

SUNREX INDUSTRY CO., LTD. Yokkaichi (E monofil & P spunbonded)

## JAPAN (continued)

TAI-RAY CO., LTD. Mito *Danzex, Danzex Lite, Liplon* (E monofil, P yarn & monofil)

TANIYAMA CHEMICAL INDUSTRY CO., LTD. Okayama *Tanikalon* (E monofil)

TOA WOOL SPINNING & WEAVING CO., LTD. Tomari *Toabo Polypro* (P staple)

TONEN TAPYRUS K.K. (TONEN TAPYRUS CO., LTD.) Kawasaki *Tapyrus* (P spunbonded)

TOYOBO CO., LTD. Iwakuni (P staple)

UBE-NITTO KASEI CO., LTD. Fukuyama & Gifu *Bulkilon-F, Danline,Sun Line, Super Danline, Ube-Nitto Polypro, UNK UC Fiber* (E & P monofil & P yarn & E & P staple)

DAIDO KASEI Osaka

FUJIMOTO SANGYO Osaka

OKAMOTO CHEMICAL Ehime

SAKAI KASEI Osaka

SANTO CHEMICAL Aichi

SEKISUI CHEMICAL Amagasaki & Nara

TOYAMA Chiba

TOYO SODA Yokkaichi

WAKO SPINNING CO. Gifu

YAMAJIN TEXTILE Fukui

### GLASS FIBER

ASAHI FIBER GLASS CO., LTD. Ibaraki & Shonan *Glasslon*

ASAHI-SCHWEBEL CO., LTD. Moriyama

CENTRAL GLASSFIBER CO., LTD. Matsusaka

FUJI FIBER GLASS CO. Moka

KANEBO, LTD. Gunma *Textoglass*

NIPPON GLASS FIBER CO., LTD. Tsu *Micro Glass*

THE NIPPON MINERAL FIBER MFG. CO. Tarui & Yuki *Superfine*

NITTO BOSEKI CO., LTD. Fukushima *Iceberg*

PARAMOUNT GLASS MFG. CO., LTD. Koriyama & Suzuka *Fether Glass*

UNITIKA U.M. GLASS CO., LTD. Kyoto

## KENYA

AFRICA SYNTHETIC FIBER LTD.
Nylon 6 — Thika (yarn)
Polyester — Thika (staple)

JAYDEES LTD.
Polyester — Nairobi (yarn)

KENYA FIBRE CORPORATION LTD.
Polyester — Nanyuki (yarn & staple)

KISUMU COTTON MILL (KICOMI)
Polyester — Kisumu

SUNFLAG LTD.
Polyester — Nairobi (yarn)

### OLEFIN FIBER

UNISACK LTD. Thika (P film)

## KOREA PEOPLE'S DEMOCRATIC REPUBLIC OF (NORTH)

A number of man-made fiber plants are said to be operating in North Korea (see June 1970 *Organon* issue, page 113); however, no data for this country are recorded in any table of this issue due to lack of reliable information.

## KOREA REPUBLIC OF (SOUTH)

CHEIL SYNTHETIC TEXTILES COMPANY
Polyester — Kumi *Eslon* (yarn & staple)

DAEHAN SYNTHETIC FIBER COMPANY
Polyester — Ulsan *Acelan* (yarn & staple)

GORYEO NYLON CORPORATION LTD.
Nylon 6 — Kyungsan Kun *Kolon* (yarn)

HANIL SYNTHETIC FIBER INDUSTRIAL COMPANY
Acrylic — Masan *Hanilon* (staple)

JEIL SYNTHETIC FIBERS COMPANY•
Polyester — Seoul *Oplen* (yarn)

KOHAP, LTD. •
Nylon 6 — Shihung *Paimylon* (yarn & staple)
Polyester — Shihung *Palmylon* (yarn & staple)

KOLON INDUSTRIES INC.
Nylon 6 — Kumi, Taegu *Kolon* (yarn)
Polyester — Kumi *Kolon* (yarn)

SAMYANG COMPANY, LTD.
Polyester — Chunju *Triron* (yarn & staple)

## KOREA REPUBLIC OF (SOUTH ) (continued)

SUNKYONG FIBRES LTD.
Acetate — Suwon *Sunkyung* (yarn & tow)
Polyester — Suwon & Ulsan *Sunkyong* (yarn & staple)

TAEKWANG INDUSTRIAL COMPANY
Acrylic — Ulsan *Acelan* (staple)
Spandex — Ulsan *Acelan* (yarn)

TONGKOOK FIBRES LTD.
Polyester — Kumi* (yarn)

TONGYANG NYLON COMPANY
Nylon 6 — Anyang & Ulsan *Toplon* (yarn)
Polyester — Ulsan *Toplon* (yarn)

TONGYANG POLYESTER COMPANY
Polyester — Ulsan *Toplon* (yarn)

WONJIN RAYON COMPANY, LTD.
Rayon — Donong *Coray* (reg yarn & staple)

**OLEFIN FIBER**

JEIL SYNTHETIC FIBERS COMPANY Seoul *Oplene* (P yarn & staple)

KOHAP, LTD. Shihung *Happylon, Pylon* (P staple)

KUMSUNG SYNTHETIC FIBER CO., LTD. Seoul *Hopelon, Polon* (P staple) (idle)

## LIBYA

LIBYA NATIONAL OIL CORPORATION (LINOCO)
Nylon 6 — Marsa Al-Brega* (yarn)
Polyester — Marsa Al-Brega* (staple)

## LUXEMBOURG

TECHNOFIBRES
Polyester — Mertert (yarn)

Production and capacity data are combined with Belgium and the Netherlands under "Benelux" on pages 100 - 101.

**OLEFIN FIBER**

DU PONT FIBRES S.A. Contern-Hesperange *Typar* (P spunbonded)

## MALAYSIA

ACRYLIC TEXTILE OF MALAYSIA SDN. BHD.
Acrylic — Kedah (yarn)

KANEBO MALAYSIAN SPINNING MILLS SDN. BHD.
Acrylic — Prai (yarn)

## MALAYSIA (continued)

PENFIBRE SDN. BHD.
Polyester — Penang (staple)

SOUTEX SENDIRIAN BERHAD
Polyester — Batu Pahat (yarn & staple)

TOOTAL THREAD MALACCA SDN. BHD.
Polyester — Malacca (yarn)

## MALTA

NYLON KNITTING CO. LTD.
Nylon 6 — Qormi (yarn)

Production and capacity data are combined with Italy.

## MEXICO

CELANESE MEXICANA, S.A.
Acetate — Ocotlán, Jalisco (yarn & staple)
Acrylic — Zacapu, Michoacán (staple, tow & tops)
Nylon 6 — Ocotlán & Toluca, México *Duracel, Nycel* (yarn & staple)
Polyester — Ocotlán, Querétaro & Toluca *Crolan* (yarn & staple)

CELULOSA Y DERIVADOS, S.A.
Acrylic — Atequiza, Jalisco *Crysel* (staple, tow & tops)
Rayon — Monterrey, Nuevo León (ind & reg yarn)

FIBRAS QUIMICAS, S.A.
Nylon 6 — Monterrey, Nuevo León *Supernylon Cydsa* (yarn & monofil)
Polyester — Monterrey *Terlenka* (yarn)

FIBRAS SINTETICAS, S.A.
Acrylic — Cotaxtla, Veracruz *Fisisa* (staple, tow & tops)
Nylon 6 — Mexico, D.F. *Fisisa* (yarn & monofil)
Polyester — Cotaxtla & México City *Fisisa* (yarn & staple)

FIBRASOMNI, S.A.•
Nylon 6 — Ixtapalapa, D.F. *Omni-Nylon* (monofil)
Saran — Ixtapalapa *Omni-Saran* (monofil)

INDUSTRIAS PETROQUIMICAS MEXICANAS, S.A.
Polyester — El Salto, Jalisco *Inpetmex* (yarn)

KIMEX S.A.
Nylon 6 — Tlalnepantla, México *Aztecron* (yarn)
Polyester — Tlalnepantla *Kintrel* (yarn)

NYLON DE MEXICO, S.A.
Nylon 6 — La Leona, Nuevo León *Nylfil* (yarn & staple)
Polyester — La Leona *Delcron* (yarn, staple, tow & fiberfill)
Spandex — La Leona *Likra* (fused multifil)

PLASTICA MODERNA, S.A. DE C.V.
Nylon 6 — Tlalpan, D.F. *Perlux* (monofil)

## MEXICO (continued)

PRODUCTOS PLASTICOS DE PUEBLA, S.A.
Nylon 6 — Puebla, Puebla *Prolon* (monofil)

**OLEFIN FIBER**

FIBRASOMNI, S.A. Ixtapalapa, D.F. *Politen-Omni* (E monofil), *Polyprop-Omni* (P yarn & monofil)

INDUSTRIAS POLIFIL, S.A. Ixtacuixtla, Tlaxcala *Pliana* (P yarn & staple)

PLASTICOS INDUSTRIALIZADOS, S.A. Monterrey, Nuevo León (P staple)

**OLEFIN FILM FIBER, only**

HILOS Y CORDELES, S.A. Tlalnepantla, México

PLASTICEL, S.A. Monterrey, Nuevo León (*Plasticel*)

POLISAC, S.A. (affiliate of Nylon de México, S.A.), Guadalajara, Jalisco (*Polisac*)

**GLASS FIBER**

VITRO-FIBRAS, S.A. Zacatenco, D.F. *Vitrofibras*

## NETHERLANDS

DU PONT DE NEMOURS (NEDERLAND) N.V.
Spandex — Dordrecht *Lycra* (fused multifil)

FIBRES AND POLYMERS DIVISION
Aramid — Arnhem, Emmen *Arenka* (yarn)
Nylon 6 — Emmen *Enka Perlon Enkalon* (yarn)
Polyester — Emmen *Diolen, Terlenka* (yarn & staple)
Rayon — Arnhem (ind yarn) & Ede (reg yarn)

**OLEFIN FIBER**

LANKHORST TOUWFABRIEKEN B.V. Sneek *Tiptolene* (E monofil & P film)

T.T.C. POLYOLEFINS B.V. Nijverdal (P monofil, film & staple)

N.V. VERTO Rotterdam (P film)

**GLASS FIBER**

SILENKA B.V. Hoogezand (Groningen) *Silenka*

Celluiosic production and capacity data are combined with Belgium on pages 104 - 109. Noncellulosic production and producing capacity data are combined with Belgium and Luxembourg under "Benelux" on pages 100 - 101.

## NICARAGUA

**OLEFIN FIBER**

MANUFACTURERA CENTRO AMERICANA S.A. (MACEN)
Managua (P film)

## NIGERIA

NICHEMTEX INDUSTRIES LTD.
Polyester — Ikorodu, Lagos *Nigerlene* (yarn & staple)

## NORWAY

**OLEFIN FIBER**

A/S PLATON, AVD. TEKSTIL Notodden *Filmtex* (E & P film)

NORFIL-NORPACK A/S Stavern, near Larvik *Akvaflex* (P yarn, E & P monofil & film)

STAL OG TAU Tonsberg *Norseflex* (P film)

**GLASS FIBER**

NORSK GLASSFIBER A/S Birkeland

## PAKISTAN

BENGAL FIBER INDUSTRIES, c/o BENGAL OIL MILLS LIMITED
Nylon 6 — Karachi *Nylpak* (yarn)
Polyester — Karachi (yarn & staple)

DILON LIMITED
Nylon 6 — Landhi *Dilon* (yarn)
Polyester — (yarn*)

GATRON INDUSTRIES LIMITED
Polyester — Hub Chowki (yarn)

HASHWANI GROUP
Polyester — Sind Province (yarn)

ICI PAKISTAN MANUFACTURERS LTD.
Polyester — Lahore *Tere-Pak* (staple)

NATIONAL FIBERS LIMITED
Polyester — Korangi, Karachi (yarn & staple)

NILOM NYLON MILLS LIMITED
Nylon 6 — Lyallpur *Nilom* (yarn & monofil)

PAK FIBRE INDUSTRIES LIMITED
Polyester — Hub Chowki (yarn)

POLYTEX
Polyester — (yarn)

## PAKISTAN (continued)

RAVI RAYON LIMITED
Acetate — Kala Shah Kaku, Sheikhupura District *Krasil* (yarn)

RUPALI POLYESTER LIMITED
Polyester — Karachi* (yarn & staple)

S.G. RAYON MILLS LIMITED
Polyester — Karachi (yarn)

SYNTHETIC POLYLON
Polyester — Katri (yarn), Hub Chowki (staple)

## PERU

BAYER INDUSTRIAL S.A.
Acrylic — Lima *Dralon* (staple)

FILAMENTOS INDUSTRIALES, S.A.
Nylon 6 — Lima* (yarn)
Polyester — Lima (yarn)

MANUFACTURA NYLON S.A.
Nylon 6 — Vitarte, near Lima (yarn)
Polyester — Vitarte *Diolen* (staple)

MANUFACTURAS DEL SUR S.A.
Nylon 6 — Arequipa *Long Life, Mistilon* (yarn)
Polyester — Arequipa (yarn & staple)

RAYON INDUSTRIAL S.A.
Acetate — Lima (yarn)
Nylon — Lima (staple)
Polyester — Lima *Forcel* (yarn, staple, tow & tops)

RETEX PERUANA, S.A.
Nylon 6 — Ventanilla, Callao (yarn)

**OLEFIN FILM FIBER, only**

NORSAC S.A. Trujillo

POLICEL DEL PERU S.A. Lima

SACOS DEL SUR S.A. Arequipa

SACOS PISCO S.A. Pisco

## PHILIPPINES, REPUBLIC OF THE

FILIPINAS SYNTHETIC FIBER CORPORATION
Polyester — Sta. Rosa, Laguna *Filsyn* (yarn & staple)

HI-LON MANUFACTURING CORPORATION
Nylon 6 — Calamba, Laguna Philippine Polyamide (yarn) (idle)

INDOPHIL FIBER CORPORATION
Rayon — Manila (staple)

## PHILIPPINES, REPUBLIC OF THE (continued)

LAKEVIEW INDUSTRIAL CORPORATION
Polyester — Carmona, Rizal *Licron* (yarn & staple)

TEXFIBER CORPORATION
Nylon 6 — Taytay, Rizal *Texfiber* (yarn)

**OLEFIN FIBER**

INDUSTRIAL TEXTILE MANUFACTURING CO. (ITEMCOP) Mandaluyong, Rizal (P film)

MANILA CORDAGE COMPANY Manila (P film)

## POLAND

CHODAKOWSKIE ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX"
Rayon — Sochaczew (reg yarn)

WROCŁAWSKIE ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX"
Rayon — Wrocław (reg yarn)

ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX-ANILANA"
Acrylic — Łódz *Anilana* (staple)
Azlon — Łódz *Wipolan* (staple, casein base)

ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX-CELWISKOZA"
Polyester — Jelenia Góra *Elana* (staple)
Rayon — Jelenia Góra (staple)
Spandex — Jelenia Góra (pilot plant) *Elaston* (yarn)

ZAKŁADY WŁOKIEN CHEMICZNYCH "ELANA"
Polyester — Torun, Bydgoszcz *Torlen* (yarn), *Elana* (staple)

ZAKŁADY WŁOKIEN CHEMICZNYCH "STILON"
Nylon 6 — Gorzów Wielkopolski *Lanastil, Stilon* (yarn), *Polana* (staple)

ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX-WISKORD" •
Rayon — Szczecin-Zydowce (reg yarn)

ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX-WISTOM"
Rayon — Tomaszów Mazowiecki, Łódz (ind & reg yarn & staple)

**OLEFIN FIBER**

ZAKŁADY PRZEMYSŁU LNIARSKIEGO LENKO Bielsko-Biala (P film)

ZAKŁADY PRZEMYSŁU LNIARSKIEGO SKARBKOW Mirsk, Wrocław (P staple)

## POLAND (continued)

ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX-WISKORD" Szczecin-Zydowce (P staple)

**GLASS FIBER**

KROSNIENSKIE HUTY SZKLA Krosno

ZAKŁADY WŁOKIEN CHEMICZNYCH "CHEMITEX-ANILANA" Łódz *Polsilon*

## PORTUGAL

COMPANHIA INDUSTRIAL DE FIBRAS ARTIFICIAIS (CIFA), S.A.R.L.

| | |
|---|---|
| Nylon 6 | Sobrado, Valongo *Cifalon* (yarn) |
| Rayon | Sobrado (reg yarn & staple) |

FIBRAS SINTÉTICAS DE PORTUGAL, S.A.R.L. (FISIPE)

| | |
|---|---|
| Acrylic | Lisbon *Vonnel* (staple, tow & tops) |

FINICISA - FIBRAS SINTÉTICAS, S.A.R.L.

| | |
|---|---|
| Polyester | Portalegre, Alto Alentejo *Terylene* (staple) |

HOECHST PORTUGUESA S.A.R.L.

| | |
|---|---|
| Nylon | Porto (monofil) |

TÊXTIL ARTIFICIAL DO PORTO, LDA.

| | |
|---|---|
| Rayon | Porto (reg yarn) |

**OLEFIN FIBER**

ALICATIFAS DA LOUSA (P staple)

FERCOL (P staple)

LUSOTUFO (P staple)

QUIMIGAL - QUIMICA DE PORTUGAL, E.P. Barreiro (P staple & film)

**OLEFIN FILM FIBER, only**

CERFIL Maia - Douro

CORDEX - COMPANHIA INDUSTRIAL TEXTIL, S.A.R.L. Esmoriz

COTESI - COMPANHIA DE TEXTEIS SINTÉTICOS S.A.R.L. Carvalhos

EUROFIL - INDUSTRIAS DE PETROLEOS PLASTICOS E FILAMENTOS, S.A.R.L. Lisbon

FÁBRICA DE TAPETES VITORIA Mira d'Aire

FERNANDES & COSTA, LDA. Seia

MANUEL RODRIGUES DE LIMA & FILHOS Cortegaca

MANUEL RODRIGUES D'OLIVEIRA, S.A. LDA. M. Maia

## PORTUGAL (continued)

QUINTAS & QUINTAS Povoa de Varzim

SICOR - SOCIEDADE INDUSTRIAL DE CORDOARIA S.A.R.L. Cortegaca

**GLASS FIBER**

QUIMIGAL - QUIMICA DE PORTUGAL, E.P. • Barreiro

## ROMANIA

CIMBINATUL DE FIBRE SINTETICE CIMPULUNG MUSCEL

| | |
|---|---|
| Polyester | Near Brasov (yarn) |

COMBINATUL DE FIBRE ARTIFICIALE

| | |
|---|---|
| Rayon | Braila, Dej* & Suceava* (ind yarn & staple) |
| Polyester | Vaslui (yarn) |

FABRICA DE FIBRE ARTIFICIALE "VISCOFIL"

| | |
|---|---|
| Rayon | Popesti-Leordeni, near Bucuresti (reg yarn) |

FABRICA DE FIBRE ARTIFICIALE "VISCOZA"

| | |
|---|---|
| Rayon | Lupeni (reg yarn) |

INTREPRINDERA DE FIBRE SINTETICE CORABIA

| | |
|---|---|
| Polyester | North of Pleven (yarn) |

UZINA DE FIBRE SINTETICE IASI

| | |
|---|---|
| Polyester | Iasi *Teron* (yarn, staple, tow & tops) |

UZINA DE FIBRE SINTETICE SAVINESTI

| | |
|---|---|
| Acrylic | Savinesti, near Piatra Neamt (Bacau Region) *Melana* (staple & tops) |
| Nylon 6 | Savinesti *Relon* (yarn & staple) |

## SOUTH AFRICA, REPUBLIC OF

CONSOLIDATED TEXTILE MILLS (part of Frame Group of Companies)

| | |
|---|---|
| Polyester | Jacobs, Natal (yarn & staple - captive) |

HOECHST SOUTH AFRICA (PTY.) LTD.

| | |
|---|---|
| Polyester | Milnerton, Cape Province *Trevira* (staple) |

SOUTH AFRICAN NYLON SPINNERS (PTY.) LIMITED

| | |
|---|---|
| Nylon 66 | Bellville, Cape Province *Bri-Nylon* (yarn) |
| Polyester | Bellville & Hammarsdale, Natal *Terylene* (yarn) |

**OLEFIN FIBER**

ROMATEX MILLS Jacobs, Natal (P film)

## SPAIN

BRILEN S.A.

| | |
|---|---|
| Polyester | Barbastro, Huesca & Igualada, Barcelona (yarn & staple) |

## SPAIN (continued)

COURTAULDS FIBRES S.A.
Acrylic — Prat de Llobregat, Barcelona *Courtelle* (staple & tow)

DE FIBER S.A.
Nylon 66 — Vendrell, Tarragona

INDUSTRIAS DEL ACETATO DE CELULOSA, S.A. (INACSA)
Acetate — La Batlloria, Barcelona (yarn)

INDUSTRIAS QUIMICAS TEXTILES S.A. (INQUITEX)
Nylon 6 — Andoain, Guipuzcoa *Carbyl, Nylhair, Trinyl* (yarn & staple)

LA SEDA DE BARCELONA, S.A.
Nylon 6 — Alcalá de Henares, Madrid *Dayan, Enkalon* (yarn & staple)
Polyester — Prat de Llobregat, Barcelona *Terlenka* (yarn & staple)
Rayon — Prat de Llobregat (ind & reg yarn)

MONTEFIBRE HISPANIA S.A.
Acrylic — Miranda de Ebro, Burgos *Leacril* (staple)

NUREL S.A.
Nylon 6 — Zaragoza, Zaragoza *Nurel* (yarn)
Polyester — Zaragoza *Terylene* (yarn & staple)

SOCIEDAD ANONIMA DE FIBRAS ARTIFICIALES (SAFA)
Nylon 66 — Blanes & San Julian de Ramis, Gerona *SAFA* (yarn & staple)
Polyester — Blanes *Tergal, Teriber* (yarn & staple)

SOCIEDAD NACIONAL DE INDUSTRIAS APLICACIONES CELULOSA ESPANOLA, S.A. (SNIACE)
Nylon 6 — Torrelavega, Santander *Lilion* (yarn & staple)
Rayon — Torrelavega (staple)

**OLEFIN FIBER**

PAULAR, S.A. - EMPRESA PARA LA INDUSTRIA QUIMICA
Puertollano, C.R. *Istrakin* (P monofil & film)

PROFILEX (P staple)

PROPILAN (P staple)

SERINA TEXTIL (P staple)

SOCIEDAD ANONIMA ITALO ESPANOLA (SAITES) Sabadell, Barcelona (P staple & film)

TEXTILE ARMENGOL Bruch, Barcelona (P staple & film)

**OLEFIN FILM FIBER, only**

CONDEROLS S.A. Granada

CORDELERIAS BARAS S.A. Gijon, Asturias

CORDELERIAS MAR S.A. Vigo, Pontevedra

HILATURAS Y CORDELERIA S.A. - "HILCOSA" Barcelona

## SPAIN (continued)

HIRESA Callosa de Segura, Alicante

YUTE INDUSTRIAL S.A. Valencia

**GLASS FIBER**

CRISTALERIA ESPANOLA - DIVISION FIBRA DE REFUERZO
Alcalá de Henares, Madrid *Fibra de Refuerzo VETROTEX*

## SRI LANKA

CEYLON PETROCHEMICAL CORPORATION
Nylon 6 — Sapugaskan (yarn & monofil)

## SWEDEN

SVENSKA RAYON AKTIEBOLAGET
Rayon — Alvenäs, Valberg (reg yarn & staple)

**OLEFIN FIBER**

SONDEX AB Malmö *Laveten* (E & P monofil)

**GLASS FIBER**

SCANDINAVIAN GLASFIBER AKTIEBOLAG Falkenberg

## SWITZERLAND

EMS INDUSTRIES, LTD.
Nylon 6 — Ems, Graubünden *Grilon* (staple)
Polyester — Domat/Ems *Grilene* (staple)

NOYFIL S.A.
Nylon 6 — Stabio (yarn)
Polyester — Stabio (yarn)

VISCOSUISSE A.G.
Nylon 6/66 — Emmenbruecke, Luzern & Widnau, St. Gallen *Nylsuisse, Flixor* (yarn & staple)
Polyester — Widnau *Tersuisse* (yarn)

**OLEFIN FILM FIBER, only**

AROVA SCHAFFHAUSEN A.G. Schaffhausen

POLY-STEGN A.G. Flurlingen

VOGT & CO. Reinach

## TAIWAN

BAN SHIN FIBER CO., LTD.
Nylon 6 — Kaohsiung *Sun & Colorful Seal* (yarn)

## TAIWAN (continued)

CENTURY EVERGREEN CORP.
Polyester — Tainan *Centuron* (yarn)

CHENTA CHEMICAL INDUSTRIAL CORPORATION
Nylon 6 — Kaohsiung *Rabbit* (yarn)

CHI YURN FIBER MILLS
Nylon — Tao Yuan (staple)

CHINA MAN-MADE FIBER CORPORATION
Rayon — Tou Fen *Queen* (reg yarn & staple)

CHUNG SHING TEXTILE CO., LTD.
Nylon 6 — Tao Yuan *Tasinlon, Threegun* (yarn)
Polyester — Tao Yuan *Tasinlon* (yarn & staple)

FAR EASTERN LTD.
Polyester — Hsin Chu *Eastlene, Eastlon* (yarn & staple)

FORMOSA CHEMICALS & FIBER CORPORATION (part of Formosa Plastics Group)
Nylon 6 — Chang Hwa *Sunylon* (yarn )
Rayon — Chang Hwa *Tarsiyon* (reg yarn & staple)

FORMOSA PLASTIC CORPORATION - Tairylan Plant (part of Formosa Plastics Group)
Acrylic — Kaohsiung & Lanchu *Tairylan* (staple, tow & tops)

FUPONT SYNTHETIC INDUSTRIAL CO.
Nylon 6 — Tao Yuan *Full-long* (yarn)

HUALON CORPORATION
Nylon 6 — Chungho, Tao Yuan & Tou Fen (yarn)
Polyester — Chungho, Tou Fen & Yim Kao *Hualon* (yarn & staple)

HUNG CHOU CHEMICAL INDUSTRY COMPANY, LTD.
Polyester — Kwei Shan *Hunvira* (yarn)

JANG DAH NYLON INDUSTRIAL CORP., LTD.
Nylon 6 — Hsin Tien *Yuan Pao* (yarn)

NAN-YA PLASTIC CO., POLYESTER FIBER DIVISION (part of Formosa Plastics Group)
Polyester — Tai Shan *Tairilin* (yarn & staple)

SAN YUAN HSING ENTERPRISE COMPANY
Nylon 6 — Kaosiung (monofil - captive)

SHINKONG SYNTHETIC FIBERS CORPORATION
Polyester — Tao Yuan *Shinlon* (yarn & staple)

SYNTHETIC FIBER MILLS CORPORATION
Nylon 6 — Tao Yuan *Synlon* (yarn)

TA MING FIBERS INDUSTRIAL CORPORATION
Nylon 6 — Tao Yuan *Ta Ming Nylon* (yarn)
Polyester — Tao Yuan *Poylon* (yarn)

TAINAN SPINNING CO., LTD.
Polyester — Tainan & Tao Yuan *Nanlon* (yarn)

## TAIWAN (continued)

TONG HWA SYNTHETIC FIBER CO., LTD.
Acrylic — Chu Pei *Townflower* (staple & tow)

TUNG HO SPINNING WEAVING & DYEING CO., LTD.
Polyester — Tainan *Pearlylene* (staple)

TUNTEX DISTINCT CORP.
Polyester — Hsin Su *Tuntex* (yarn & staple*)

UNITED SYNTHETIC FIBERS CORPORATION
Polyester — Tao Yuan *King Long* (staple)

VANLON FIBERS INDUSTRIAL CORPORATION
Nylon 6 — Tao Yuan *Vanlon* (yarn)
Polyester — Tao Yuan *Vanlon* (yarn)

YU HO FIBER INDUSTRIAL CORPORATION
Polyester — Tao Yuan *Luxlen* (yarn)

### OLEFIN FIBER

CHIA YANG INDUSTRIAL CO., LTD. Hsi-Chih (P monofil)

CHIEN SUN PLASTIC INDUSTRIAL CO., LTD. Hsin-Chu (E & P film)

CHINA FOLEX CORPORATION Shih-Lin (E & P monofil)

CHUNG KUANG PLASTIC CO., LTD. Chang-Hua (E & P film)

FULLMARK INDUSTRIAL CO., LTD. Hsin-Chu (E & P monofil)

FUU WON CHEMICAL INDUSTRIAL CO., LTD. Tu-Chen (P yarn)

HSIEH CHIN FISHING NET COMPANY, LTD. Kaohsiung *Hsieh Chin* (E monofil - captive)

HUNG FENG ENTERPRISE CO., LTD. Yang-Mei (P monofil)

IEN YI FIBER INDUSTRIAL CO., LTD. Chi-Do Goble (E monofil)

JUI I CHEMICAL INDUSTRIAL CO., LTD. Tou-Yuan (E & P monofil)

KUO HSIANG ENTERPRISE CO., LTD. Yang-Mei (E & P monofil)

LIEN FU CHEMICAL COMPANY LTD. Tou-Fen (E & P monofil)

MEI LON FIBER CO., LTD. Chang-Hua (E monofil)

PAO TSUNG TAI INDUSTRIAL COMPANY LTD. Tainan (P film)

POLON FIBER INDUSTRIAL CO., LTD. Chung-Li (P monofil)

SAN YANG INDUSTRIAL COMPANY LTD. Nei Hu Hsiang (P film)

TAI YEE CHEMICAL INDUSTRIAL CO., LTD. Chung-Li (E & P monofil)

## TAIWAN (continued)

UNITED FIBER INDUSTRIAL CO., LTD. Chung-Li (E & P monofil)

YAO CHENG PLASTIC CO., LTD. Pan-Chiao (P yarn)

## TANZANIA

SUN FLAG TEXTILE KNITWEAR MILLS LTD.
Polyester — Arusha (yarn)

## THAILAND

ASIA FIBER CO., LTD.
Nylon 6 — Samut Prakarn *AFC* (yarn)

HANTEX CORPORATION LTD.
Nylon 6 — Mahacha, Samut Sakorn (yarn)

ORIENTAL FIBRE
Polyester — Samut Sakorn (yarn)

TEIJIN POLYESTER (THAILAND) LTD.
Polyester — Pathumthani, Bangkok *TEIJIN TETORON* (yarn & staple)

THAI MELON POLYESTER CO. LTD.
Polyester — Pathumthani, Bangkok (yarn & staple)

THAI RAYON CO., LTD.
Rayon — Ang Thong (staple)

TORAY NYLON THAI COMPANY
Nylon 6 — Bangkhen, Bangkok *TNT* (yarn & monofil)
Polyester — Bangkhen *TNT* (yarn)

## TURKEY

AKRILIK KIMYA SANAYII A.S. (AKSA)
Acrylic — Yalova *Aksa* (staple)

DUSA
Nylon 6 — Izmit (yarn)

FILAMENT SENTETIK IPLIK VE ELYAF SANAYII A.S.
Polyester — Bursa *Filament* (yarn & staple)

GEMLIK SUNI IPEK VE VISKOZ MAMULLERI SANAYII MUESSESESI (GEMLIK ARTIFICIAL SILK & VISCOSE PRODUCTS INDUSTRY) (Operated by the Sumerbank)
Rayon — Gemlik (yarn & staple)

INSA ISTANBUL NAYLON SANAYII A.S.
Nylon 6 — Istanbul *Ision* (yarn)
Polyester — Istanbul (yarn)

M.N. SABUNCU
Polyester — Adana *MNS* (yarn) (idle)

NERGIS A.S.
Polyester — Bursa (yarn)

## TURKEY (continued)

POLYLEN SENTETIK IPLIK SANAYII A.S.
Polyester — Bursa *Polylene* (yarn)

SANCAK TUL SANAYII LTD., STI.
Polyester — Istanbul *Lalelen* (yarn) (idle)

SASA SUNI VE SENTETIK ELYAF SANAYII A.S.
Polyester — Adana *Perilon* (yarn & staple)

SENTETIK IPLIK FABRIKALARI, A.S. (SIFAS)
(SYNTHETIC YARN FACTORIES CORPORATION)
Nylon 6 — Bursa *SIFAS* (yarn & staple)
Nylon 66 — Bursa (yarn)
Polyester — Bursa (yarn & staple)

SISAS
Polyester — Canakkale* (yarn)

TEKSTIPLIK SANAYII VE TICARET A.S.
Nylon 6 — Edime *Dimlon* (yarn)

YALOVA ELYAF VE IPLIK SANAYII VE TICARET A.S.
Acrylic — Yalova *Yalova* (staple & tow)
Modacrylic — Yalova *Yalova* (staple & tow)

**OLEFIN FIBER**

BEZCI ELYAF SANAYII A.S. Istanbul

DINARSU ELYAF SANAYII A.S. Cerkezkoy, Tekirdag (P staple)

ELSAN ELYAF SANAYII VE TICARET A.S. Istanbul (P staple)

HALICIOGLU ELYAF SANAYII A.S. Haskoy, Istanbul (P staple)

SESAS ELYAF SANAYII A.S. Istanbul

**GLASS FIBER**

CAM ELYAF SANAYII A.S. Cayirova-Gebze (Izmit)

## UNION OF SOVIET SOCIALIST REPUBLICS

**RAYON PLANTS** reported at:
Balakovo, Barnaul, Cherkassy (Ukraine), Kalinin, Kamensk, Kiev, Klin, Krasnoyarsk, Leningrad, Mogilev, Ryazan, Saratov, Sokol, Sverdlovsk and Svetlogorsk.
**ACETATE PLANTS** reported at:
Engels, Fergana, Kirovakan and Moscow.
**NYLON PLANTS** reported at:
Barnaul, Chernigov, Daugavpils, Engels, Grodno, Kemerovo, Kiev, Klin, Leningrad, Rustavi, Shchekino and Zhitomer.
**NONCELLULOSIC FIBER PLANTS** reported at:
Kursk (polyester), Blagoveshchensk (polyester*), Kustanay (vinyon), Minsk (polyester), Mogilev (polyester), Navoi, Polotsk and Saratov(acrylic+modacrylic), Svetlogorsk (polyester).
**GLASS FIBER PLANTS** reported at:
Astrakhan, Kalinin, Khabarovsk, Leningrad, Mingechaur, Moscow, Polotsk, Salavat, Saratov, Sevan and Severodonetsk.

## UNITED KINGDOM

COURTAULDS FIBRES LTD.

| | |
|---|---|
| Acrylic | Grimsby, South Humberside *Courtalle* (staple & tow) *Sakril* (high modulus staple) |
| Modacrylic | Coventry, West Midlands *Teklan* (staple & tow) |
| Polyacrylate | Coventry, *Inidex* (staple) |
| Rayon | Grimsby (staple & tow ) |
| Acetate | Coventry; Spondon, Derbyshire *Dicel* (yarn, staple & tow) |
| Triacetate | Coventry & Spondon *Tricel* (yarn & staple) |

DEAN DOVE LTD.

| | |
|---|---|
| Polyester | Stanley, Durham (yarn) |

DU PONT (U.K.) LTD.

| | |
|---|---|
| Spandex | Maydown, Londonderry, N. Ireland *Lycra* (fused multifil) |

ECTONA FIBRES LTD.

| | |
|---|---|
| Acetate | Siddick, Workington (cigarette tow) |

HOECHST FIBRE INDUSTRIES U.K. LTD.

| | |
|---|---|
| Polyester | Limavady, Londonderry, N. Ireland *Trevira* (yarn & monofil) |

ICI FIBRES (part of ICI Chemicals and Polymers Ltd.)

| | |
|---|---|
| Biconstituent | Pontypool, Gwent , Wales; Workington, Cumbria *Cambrelle, Floratex, Terram* (melded fabrics) |
| Nylon 66 | Doncaster, Yorkshire; Gloucester, Gloucestershire; & Pontypool *Bri-Nylon, Qazul, Quintesse, Tactel, Tacresse, Tendrelle, Timbrelle* (yarn, staple & tow) |
| Polyester | Pontypool & Wilton, Yorkshire *Limbaki, Mitrelle, Terinda, Terylene* (yarn, staple & tow) |

NYMOFIL PLC

| | |
|---|---|
| Nylon 6/66 | Poulton-le-Fylde, Lancashire (monofil) |
| Polyester | Poulton-le-Fylde (monofil) |

PENNINE FIBRE INDUSTRIES LTD.

| | |
|---|---|
| Polyester | Bradford, West Yorkshire (staple & tow) |

PERI-LUSTA PLC

| | |
|---|---|
| Nylon 6/66 | Leek, Staffordshire (monofil) |

**OLEFIN FIBER**

BELFAST ROPEWORK CO. PLC Belfast, N. Ireland *Bluebell* (E & P monofil, P yarn, staple & film)

CROMPTON AND BROTHERS Bury, Lancashire (P staple)

DON & LOW (HOLDINGS) LTD. Forfar, Angus, Scotland (P yarn, monofil, staple & film)

F. DRAKE (FIBRES) LTD Golcar, Huddersfield, Yorkshire *Gymlene* (P staple)

F. DRAKE & CO. OF GOLCAR LTD. Golcar, Huddersfield (P yarn)

## UNITED KINGDOM (continued)

HALL'S BARTON ROPERY LTD. Hull, Yorkshire (P film and E & P monofil)

WM. HALLEY & SONS (MFG.) LTD. Dundee, Angus, Scotland

THE HAWKINS AND TIPSON GROUP Hailsham, East Sussex (P staple & film)

McCLEERY L'AMIE GROUP PLC Belfast, N. Ireland (P yarn)

PLASTICISERS LTD. Drighlington, Yorkshire *Drylene* (E monofil); *Charisma, Duron, Fibrite, Tritor* (P yarn, monofil, film & staple)

POLYOLEFINE FIBRES & ENGINEERING LTD. Bradford, Yorkshire *Downspun* (P staple)

SAMSON YARNS Saintfield, N. Ireland (P yarn)

**OLEFIN FILM FIBER, only**

AMOCO FABRICS & FIBERS CO., DIVISION OF AMOCO (U.K.) PLC Consett, Durham

BONAR TEXTILES Dundee, Angus, Scotland

BRIDON FIBRES & PLASTICS LTD. Gateshead & Sunderland, Durham & Wallsend, Northumberland *Broplene, Red Star, Viking*

FLEMING'S ROPE & TWINES (WOOLSTON) PLC Warrington, Lancashire

POLYTAPE PLC Dundee, Angus, Scotland *Propafil, Propatape*

ROKO CONTAINERS LTD. Nottingham

ROTHES PLASTICS PLC Glenrothes, Fife, Scotland

SCOTT & FYFE LTD. Tayport, Fife, Scotland

A.G. SCOTT TEXTILES LTD. Dundee, Angus, Scotland

SMITH & NEPHEW TEXTILES LTD. Newhey, near Rochdale, Lancashire *Polyweave*

SYNTHETIC INDUSTRIES (IRELAND) LTD. Newry, Down, N. Ireland

**GLASS FIBER**

FIBREGLASS PLC (Subsidiary of Pilkington Brothers PLC) Wrexham, Clwyd, Wales *Fibreglass*

T GLASS FIBRES PLC Camberley, Surrey & Hindley Green, Lancashire

FIBREGLASS-REGINA, a joint venture of FIBREGLASS PLC and the BBA GROUP PLC, is producing textile glass tissue (voile) at Liversedge and St. Helens, Merseyside.

## UNITED STATES OF AMERICA

### ALBANY INTERNATIONAL - MONOFILAMENT PLANT •

| | |
|---|---|
| Fluoro | Homer, NY *Halar, Kynar, Tefzel* (monofil) |
| Nylon 6, 66 & 612 | Homer (monofil) |
| Polyester | Homer (monofil - regular & hydrolysis-resistant) |

### ALLIED/SIGNAL FIBERS DIVISION •

| | |
|---|---|
| Nylon 6 | Columbia, SC & Chesterfield, VA *A.C.E., Anso, Anso-IV, Anso IV HP, Anso-Tex, AnsoV Worry-Free, Anso X, Capima, Caplana, Caprolan, Caprolan 2000, Caprolan 2000 SeaGard, Caprolan 2000 StayGard, Captiva, Compet, Creme De Captiva, Hydrofil, Patina, TEC* (yarn, monofil & staple) |
| Polyester | Moncure, NC *A.C.E., A.C.E. SeaGard, Compet, StayGard* (yarn & monofil) |

### AMERICAN CYANAMID COMPANY, FIBERS DIVISION

| | |
|---|---|
| Acrylic | Milton, FL *Creslan* (staple & tow) |

### AMETEK INC., SPECIAL FILAMENTS DIVISION •

| | |
|---|---|
| Nylon 6, 66, 612 & 11 | Odenton, MD (monofil) |
| Polyester | Odenton (monofil) |
| Saran | Odenton (monofil) |

### AVTEX FIBERS INC. •

| | |
|---|---|
| Polyester | Lewistown, PA *Avlin* (yarn) |
| Rayon | Front Royal, VA *Avril* (ind yarn & staple) |

### BASF CORPORATION FIBERS DIVISION

| | |
|---|---|
| Acrylic | Williamsburg, VA *Zefran, Zefkrome* (staple) |
| Nylon 6 | Enka, NC, Anderson & Central, SC and Lowland, TN *Crepeset, Vivana, Zefsport, Zeftron, Zeftron 500,* (yarn & staple) |
| Polyester | Lowland *Golden Glow, Golden Touch, Silky Touch, Strialine, Ultra Touch* (yarn) |
| Rayon | Lowland *Zantrel, Zantrel Plus™* (staple) |

### BERKLEY & CO., INC. •

| | |
|---|---|
| Nylon 6 | Spirit Lake, IA (monofil) |

### CAMAC CORPORATION •

| | |
|---|---|
| Nylon 6 | Bristol, VA *Camalon* (yarn) |

### COLOR-FI, INC.

| | |
|---|---|
| Nylon | Sumter & Trenton, SC (staple & tow) |
| Polyester | Sumter & Trenton (staple & tow) |

### CONCORDE FIBERS, INC. •

| | |
|---|---|
| Nylon 6 | Jamestown, SC (yarn) |

### CORTLAND LINE COMPANY, INC.

| | |
|---|---|
| Nylon 6 | Cortland, NY (monofil - captive) |

## UNITED STATES OF AMERICA (continued)

### COURTAULDS NORTH AMERICA INC.

| | |
|---|---|
| Nylon 6 | Le Moyne, Mobile County, AL *Courtaulds, Shareen* (yarn & monofil) |
| Rayon | Le Moyne (staple) |

### DORSETT CARPET MILLS INC. •

| | |
|---|---|
| Nylon 6 | Chatsworth, GA (yarn) |

### E.I. DU PONT DE NEMOURS & COMPANY (INC.) •

#### FABRICATED PRODUCTS DEPARTMENT

| | |
|---|---|
| Nylon 6, 66, 612 & Polyester | Parkersburg, WV *Dacron, Dymetrol, Tynex, Vylor* (monofil of 0.002 in. diameter and greater) |

#### TEXTILE FIBERS DEPARTMENT •

| | |
|---|---|
| Acrylic | Camden, SC & Waynesboro, VA *Orlon* (staple & tow) |
| Aramid | Richmond, VA *Kevlar* (yarn), *Nomex* (yarn, staple & tow) |
| Nylon 66 | Seaford, DE, Camden, SC, Chattanooga, TN and Martinsville, Richmond & Waynesboro, VA *Antron, Cantrece, Cordura, Du Pont, Hyten , Supplex* (yarn, monofil, staple & tow) |
| Polyester | Kinston & Wilmington, NC, Camden & Charleston, SC and Old Hickory, TN *Dacron, Hollofil* (yarn, staple, tow & fiberfill), *Sontara* (spunlaced) |
| Spandex | Waynesboro *Lycra* (fused multifill or coalesced monofil) |

### EASTMAN KODAK COMPANY - TENNESSEE EASTMAN COMPANY

| | |
|---|---|
| Acetate | Kingsport, TN (yarn) |
| Polyester | Kingsport, TN *Kodel* (staple) |

### CAROLINA EASTMAN COMPANY

| | |
|---|---|
| Polyester | Columbia, SC *Kodel* (staple) |

### FIBER INDUSTRIES

| | |
|---|---|
| Polyester | Fayetteville, NC & Darlington, SC *Fortrel* (yarn & staple) |

### FIRESTONE FIBERS & TEXTILES COMPANY, DIVISION OF FIRESTONE TIRE & RUBBER COMPANY

| | |
|---|---|
| Polyester | Hopewell, VA (yarn) |

### FOSS MANUFACTURING CO., INC. •

| | |
|---|---|
| Polyester | Haverhill, MA (staple - captive) |

### GLOBE MANUFACTURING CO.

| | |
|---|---|
| Spandex | Fall River, MA & Gastonia, NC *Cleerspan, $DC\text{-}_{100}$, $DC\text{-}_{700}$, Glospan* (fused multifil) |

### THE GOODYEAR TIRE & RUBBER COMPANY, POLYESTER DIVISION

| | |
|---|---|
| Polyester | Scottsboro, AL & Point Pleasant, WV (yarn - captive) |

### HANOVER FIBERS DIVISION, GUILFORD MILLS, INC.

| | |
|---|---|
| Nylon 6 | Gainesville, GA (monofil) |
| Polyester | Fuquay-Varina, NC (yarn & monofil) |

## UNITED STATES OF AMERICA (continued)

HOECHST CELANESE CORPORATION

| | |
|---|---|
| Acetate | Rock Hill, SC and Celriver & Narrows, VA *Celco* (yarn, staple & tow) |
| Polyester | Salisbury & Shelby, NC and Spartanburg, SC *Angelette, Ceylon, Comfort Fiber, ESP, Loftguard, PolarGuard, Serene, Superba, Trevira* (yarn, monofil, staple, tow, fiberfill & spunbonded) |
| PBI | Rock Hill (staple) |

JOHNSON FILAMENTS, INC. • (subsidiary of JWI Ltd.)

| | |
|---|---|
| Nylon 6/66 | Williston, VT (monofil) |
| Polyester | Williston (monofil) |

KAYSER-ROTH HOSIERY INC.
YARN PROCESSING DIVISION

| | |
|---|---|
| Nylon 66 | Creedmoor, NC (yarn - captive) |

MKS COMPANY INC.

| | |
|---|---|
| Polyester | Elizabethton, TN (staple) |

MONOFILAMENTS, INC.

| | |
|---|---|
| Nylon 6/66 | Waynesboro, VA (monofil) |
| Polycarbonate | Waynesboro (monofil) |
| Polyester | Waynesboro (monofil) |

MONSANTO CHEMICAL COMPANY
FIBERS AND ENGINEERED PRODUCTS DIVISION

| | |
|---|---|
| Acrylic | Decatur, AL *Acrilan Acrilan II, Bi-Loft, Fi-Lana II, Pa-Qel, So-Lara , So-Qel* (staple & tow) |
| Modacrylic | Decatur *SEF, SEF Plus* (staple & tow) |
| Nylon 66 | Pensacola, FL & Greenwood, SC *No-Shock, Ultron* (yarn, monofil & staple) |

NORTH AMERICAN RAYON CORPORATION

| | |
|---|---|
| Rayon | Elizabethton, TN (ind & reg yarn & tow) |

REEMAY, INC. •

| | |
|---|---|
| Polyester | Old Hickory, TN *Reemay* (spunbonded) |

SHAKESPEARE COMPANY, MONOFILAMENT DIVISION •

| | |
|---|---|
| Nylon 6/66 & 610 | Columbia, SC (monofil) |
| Polyester | Columbia (monofil) |

STAR FIBERS, INC.

| | |
|---|---|
| Nylon 6 | Edgefield, SC *Starbrite* (staple) |

SUNSHINE CORDAGE CORPORATION •

| | |
|---|---|
| Nylon 6 | Miami, FL *Sunylon* (yarn) |

TOLARAM FIBERS, INC.•

| | |
|---|---|
| Nylon 6.6 | Ansonville, NC (yarn) |
| Polyester | Ansonville & Asheboro (yarn) |

WELLMAN, INC., MAN-MADE FIBER DIVISION

| | |
|---|---|
| Nylon 6 & 66 | Johnsonville, SC *Wellon, Wellstrand* (staple, tow & tops) |
| Polyester | Johnsonville *Fillwell, Wellene, Wellstrand* (staple & tow) |

## UNITED STATES OF AMERICA (continued)

YKK ZIPPER CO.

| | |
|---|---|
| Polyester | Macon, GA (yarn) |

**OLEFIN FIBER**

ACS INDUSTRIES, INC. Woonsocket, RI (P yarn & multifil)

ALADDIN MILLS, INC. Dalton, GA (P yarn)

ALBANY INTERNATIONAL - MONOFILAMENT PLANT Homer, NY (P monofil)

ALLIED/SIGNAL, FIBERS DIVISION Chesterfield, VA *Spectra-900, Spectra-1000* (E yarn)

AMERICAN MANUFACTURING COMPANY
LAFAYETTE ROPE DIVISION Lafayette, LA *Amco, American, Bondtie, Floterope, Ultraline* (E & P monofil & film)

AMERICAN POLYCRAFT Dalton, GA (P yarn & film)

AMETEK INC., SPECIAL FILAMENTS DIVISION Odenton, Md (E & P monofil)

AMOCO FABRICS & FIBERS COMPANY Andalusia & Roanoke, AL, Bainbridge, Hazlehurst & Nashville, GA, Salisbury, NC & Afton, VA *Amoveve, Condesa, Genesis, Marquésa Lana, Marquésa Lana ST, Patlon, Patlon Plus, Propex III, Synera* (P yarn, monofil, film & staple)

ARLIN MFG. CO., INC. Lowell, MA (P film)

ARMSTRONG WORLD INDUSTRIES, INC. Charlotte, NC (P film - captive)

AVTEX FIBERS INC. Front Royal, VA (P staple)

BEAULIEU OF AMERICA Dalton, GA (P yarn)

BERKLEY & CO. INC. Spirit Lake, IA (E & P monofil - captive)

BLUE MOUNTAIN EXTRUSIONS Anniston, AL *Gold Medal, Poly Autotwine, Poly Macramé, Polylasting, TY-EZ Polytape, Tylon, Tytite* (E & P film cordage)

BRIDON CORDAGE INC. Albert Lea, MN (P film cordage)

BURLINGTON INDUSTRIES, INC. Greensboro, NC (P yarn)

CALIFORINA WEBBING INDUSTRIES, INC. Los Angeles, CA (P yarn)

CAMAC CORPORATION Bristol, VA (P yarn)

CHASE PACKAGING CORPORATION Portland, OR (P film & industrial goods)

CIRTEX Dalton, GA (P film)

COLUMBIAN ROPE COMPANY Guntown, MS *Polypro 6* (E & P monofil & film)

CONCORDE FIBERS, INC. Jamestown, SC (P yarn)

## UNITED STATES OF AMERICA (continued)

CROWE ROPE COMPANY Warren, ME *Crowelon* (P monofil & film)

CUMBERLAND MILLS, INC. Dalton, GA (P yarn)

CUTLASS CARPET CO. Dalton, GA (P yarn)

DIAMOND MILLS, INC. Eton, GA (P yarn & film)

DORSETT CARPET MILLS INC. Chatsworth, GA (P yarn)

E.I. DU PONT DE NEMOURS & COMPANY (INC.), TEXTILE FIBERS DEPT. Richmond, VA *Tyvek* (E spunbonded)

ELIZABETH WEBBING MILLS CO., INC. Central Falls, RI (P yarn & film)

ENSIGN-BICKFORD INDUSTRIES, INC., FILM FIBERS DIVISION Simsbury, CT (P film)

EXXON CHEMICAL AMERICAS, INDUSTRIAL TEXTILES DIVISION Kingman, KS and Summerville, SC (P monofil & film)

FIBERS & FABRICS OF GEORGIA, INC. (subsidiary of Georgia Synthetics, Inc.) Elberton, GA (P yarns, fibrillated, roll embossed filaments & ribbon yarn)

FIBRES SOUTH, INC. Trussville, AL *Polystar, Trustite, Tyrite* (P film, monofil, tapes & staple)

FILAMENT FIBER TECHNOLOGY INCORPORATED Lakewood, NJ and Salisbury, NC (P yarn)

FNT INDUSTRIES INC. Menominee, MI (E monofil)

FOSS MANUFACTURING CO., INC. Haverhill, MA (P staple - captive)

GENERAL FIBERS & FABRICS, INC. La Grange, GA (P film)

GEORGIA SYNTHETICS, INC. Elberton, GA (P film carpet backing)

GFF HOLDING COMPANY (formerly N.S.I., INC.) Soperton, GA (P film - captive)

HERCULES INCORPORATED, HERCULES ENGINEERED POLYMERS COMPANY Oxford, GA *Herculon, Nouvelle* (P yarn & staple)

THE HOOVEN & ALLISON COMPANY Xenia, OH (P film)

INTEGRATED PRODUCTS, INC. Rome, GA (P staple)

J & J INDUSTRIES Dalton, GA (P yarn)

JAMES RIVER CORPORATION (formerly Crown Zellerbach Corp.) Washougal, VA (P spunbonded)

JOHNSON FILAMENTS Williston, VT (P monofil)

## UNITED STATES OF AMERICA (continued)

KIMBERLY-CLARK CORPORATION Corinth, MS, Balfour, NC, La Grange, GA & Neenah, WI *Accord, Duraguard, Evolution* (P spunbonded); *Cyclean, Evolution III* (P spunbonded/meltblown & laminate)

LAMBETH CORPORATION New Bedford, MA *Lambeth* (E & P monofil)

LAWRENCE HOSE COMPANY Burlington, NC (E monofil - captive)

LORETEX, DIVISION OF OIVIND LORENTZEN, INC. Guilderland Center, NY (E film - captive)

MIRAFI INC (subsidiary of Dominion Textiles) Moultrie, GA (P film - captive)

THE OSTERNECK COMPANY Lumberton, NC (P film)

PHILLIPS FIBERS CORPORATION (subsidiary of Phillips 66 Company) Rocky Mount, NC, Seneca & Spartanburg, SC *Marvess* (P yarn, staple & tow) *Ryton* (sulfar - staple)

POLYLOOM CORPORATION OF AMERICA Dayton, TN *Polyloom* (P split film)

RANGER TEXTILE CORP. (formerly Gladding Cordage Corp.) South Otselic, NY (P monofil)

REEMAY, INC. Old Hickory, TN *Typar* (P spunbonded)

SARLON INDUSTRIES, INC. Miami, FL (P monofil & film)

SHAKESPEARE MONOFILAMENT DIVISION Columbia, SC (P monofil)

SHUFORD MILLS, INC. Hickory, NC (P film cordage & twine)

SOLUTION FIBERS, INC. Lafayette, GA (P yarn)

SOUTHERN WEAVING, INC. Greenville, SC (P yarn)

STEVENS FIBER DIVISION, STEVENS LINEN ASSOC., INC. Dudley, MA (P staple)

SUNSHINE CORDAGE CORPORATION Miami, FL (E & P monofil, cordage)

SYNTHETIC INDUSTRIES Chickamauga & Dalton, GA (P film, yarn & staple)

SYNTHETIC INDUSTRIES, FIBRON DIVISION Chattanooga TN *Fibri-Cord, Fibri-Knit, Fibrilawn, Fibrilon* (P film)

TECHLON FIBERS CORPORATION Dalton, GA (P yarn)

TECHNOTRADE Dalton, GA (P yarn)

TOLARAM FIBERS, INC. Ansonville, NC (P yarn)

TRUSTITE DIVISION OF FIBRES SOUTH, INC. Clearfield, UT *Trustite, Tyrite* (P film)

## UNITED STATES OF AMERICA (continued)

TWINE PRODUCTS CORPORATION New Orleans, LA (P film)

UNITED STATES ROPE COMPANY Menlo Park, CA (P monofil)

WALL INDUSTRIES, INC. Granite Quarry, NC (E & P monofil, rope & cordage)

WALTRICH PLASTIC CORPORATION Walthourville, GA (P monofil)

WAYN-TEX, INC. Waynesboro, VA *Beamette, Wayntuf* (E & P monofil & P film - captive)

WELLINGTON PURITAN MILLS (MONTAIR DIV.) Pilot Mountain, NC *Pur-Ty, Welltite* (P yarn & E & P monofil & film)

WELLINGTON SYNTHETIC FIBRES, INC. Leesville & Summerville, SC (P yarn & monofil)

**TEXTILE PRODUCTS FROM OLEFIN**

CONTINENTAL (P yarn)

CONWED CORP. Conwed Plastic Netting (P embossed film for netting)

DICEY (P yarn)

E.I. DU PONT DE NEMOURS & COMPANY (INC.) (E & P embossed film for netting)

NALLE, INC. (P embossed film for netting)

RIEGEL PRODUCTS CORPORATION *Polyweb* (P meltblown)

THE 3M COMPANY (P spunbonded)

**GLASS FIBER**

CERTAINTEED CORPORATION, FIBER GLASS REINFORCEMENTS DIVISION Wichita Falls, TX *RO99, Satin Glass, Stichmat, Unifilo* (roving, woven roving, mat, chopped strand & combination product)

FIBER GLASS INDUSTRIES, INC. Amsterdam, NY (roving & woven glass reinforcements)

GAF, BUILDING MATERIALS DIVISION Irwindale, CA (chopped), Nashville, TN (chopped)

GFT (GLASS FIBER TECHNOLOGY) Chester, SC (wet chopped for shingles)

LUNDY TECHNICAL CENTER Pompano Beach, FL *RoMHOglas* (metallized glass fiber roving, strand & mat)

MANVILLE SALES CORPORATION Waterville, OH & Etowah, TN *Chop-Pak, Dura-Glass, Star Stran, Star Rov , Tempstran* (chopped strand, mat, microfibers, sliver & roving)

NICOFIBERS INC. Shawnee, OH *Conformat, Consurmat, Surmat* (mat)

## UNITED STATES OF AMERICA (continued)

NITTOBO-SCHWEBEL CORPORATION* (Yarn)

OWENS-CORNING FIBERGLAS CORPORATION Huntingdon, PA, Aiken & Anderson, SC and Amarillo, TX *Beta, Bi-Ply, Fiberglas, S-Glass, S-2 Glass* (yarn, roving, woven roving, mat, chopped & milled)

PPG GLASS FIBERS LTD. Lexington & Shelby, NC (yarn, roving, mat, chopped strand, woven roving & rubber reinforcement)

SUPERIOR GLASS FIBERS, INC. Bremen, OH (mat)

## URUGUAY

HILADOS SINTETICOS S.A. (HISISA)
Nylon 66 Estacion Manga, Montevideo *Hisilon* (yarn)

POLIMEROS URUGUAYOS S.A.
Polyester San José, San José (staple)

SINTETICOS SLOWAK S.A.
Nylon 6 Montevideo *Crofil* (yarn & monofil)

SINTETICOS SLOWAK S.A. (continued)
Nylon 66 Montevideo *Hisilon* (yarn)
Polyester Montevideo *Terpol* (yarn)

SUDAMTEX del URUGUAY S.A.
Acetate Colonia (yarn)

**OLEFIN FIBER**

ARYN S.A. Montevideo (E monofil)

CINCA S.A. Montevideo (E film)

ELABORADORA DE ARPILLERA SINTETICA S.A. (E film)

## VENEZUELA

C.A. INVERSIONES ARAGUA
Nylon 6 Maracay *Sudalon* (yarn)

GOMELAST, C.A.
Spandex Caracas *Spandaven* (yarn)

HILADOS FLEXILON
Nylon 6 Caracas (yarn)
Polyester Caracas (yarn)

MANTEX, C.A.
Acetate Valencia (yarn)
Polyester Maracay, Valencia *Fortrel* (yarn & staple)

SUDAMTEX DE VENZUELA, C.A.
Polyester Maracay (yarn & staple)

## YUGOSLAVIA

HEMTEKS
Polyester — Skopje, Macedonia *Maklen* (yarn & staple)

INCEL FABRIKA CELULOZE I VISKOZE
Polyester — Banja Luka, Bosna i Hercegovina *Belira* (yarn)
Rayon — Banja Luka (staple)

INDUSTRIJA SINTETICKIK VLAKANA (PROGRES)
Nylon 6 — Prizren, Kosovo Mitohijan *Supralon* (yarn)
Polyester — Istok, Kosovo Mitohijan & Prizren *Prizrenit* (yarn)

KEMICNA TOVARNA MOSTE
Nylon 6 — Ljubljana, Slovenia *Yulon* (yarn)

ORGANSKO HEMIJSKA INDUSTRIJA SKOPJE (OHIS)
Acrylic — Skopje, Macedonia *Makrolan, Malon* (staple)

TEKSTILNA INDUSTRIYA "ZELE VELJKOVIC"
Nylon 6 — Leskovac* (yarn & staple)

VARAZDINSKI TEKSTILNI KOMBINAT (VARTEKS)
Polyester — Varazdin (staple)

VISKOZA
Rayon — Loznica, Serbia (ind & reg yarn & staple)

**OLEFIN FIBER**

HEMIJASKA INDUSTRIJA U OSNIVANJU Belgrade (P staple)

**GLASS FIBER**

GOSTIVAR STAKLARA Staklara (roving & mat)

# WORLDWIDE MAN-MADE FIBER PRODUCER AFFILIATIONS & PERCENTAGE OF CAPITAL OWNERSHIP

Licensing and royalty agreements are not taken into account. The ownership of companies, other than man-made fiber producers, is not listed; e.g., weaving mills, chemical producers, etc.

For each country, the percentage following the first-named producer is the portion owned by the captioned company; the remainder of the entry shows other ownership. For example, Akzo N.V. owns 40% of Fibras Quimicas and Alfa-Group owns 60%.

## AKZO N.V. (NETHERLANDS)

| | |
|---|---|
| Brazil | Companhia Bahiana de Fibras 45%; others 55% |
| | Polyenka 51%; others 49% |
| Colombia | Enka de Colombia 49%; others 51% |
| Ecuador | Enkador 49%; others 51% |
| Germany, Fed. Rep. | Enka 97%; public 3% |
| India | Century Enka 40%; others 60% |
| Mexico | Fibras Quimicas 40%; Alfa-Group 60% |
| Netherlands | Enka 100% |
| | Silenka 33.33%; PPG Industries 33.33%; others 33.33% |
| Spain | La Seda 57%; others 43% |

## AMERICAN CYANAMID COMPANY (U.S.A.)

| | |
|---|---|
| U.S.A. | Fibers Division 100% |

## AMOCO CHEMICALS CORPORATION (U.S.A.)

| | |
|---|---|
| Australia | Amoco Fabrics & Fibers Co. 100% |
| Brazil | Amoco Fabrics & Fibers Co. 100% |
| Canada | Amoco Fabrics & Fibers Co. 100% |
| Germany, Fed. Rep. | Amoco Fabrics & Fibers Co. 100% |
| U.K. | Amoco Fabrics & Fibers Co. 100% |
| U.S.A. | Amoco Fabrics & Fibers Co. 100% |

## ASAHI CHEMICAL INDUSTRY CO. LTD. (JAPAN)

| | |
|---|---|
| India | Baroda Rayon Corp. 1%; local interests 89%; others 10% |
| Indonesia | P.T. Indonesia Asahi Chemical 51%; others 19%; local interests 30% |
| Ireland | Asahi Synthetic Fibres (Ireland) 85%; others 15% |
| Japan | Asahi Chemical 100% |
| Korea, Rep. of | Tong Yang Polyester 50%; Tong Yang Nylon 50% |

## BASF CORPORATION

BASF Corporation owns 100% of BASF Corporation Fibers Division and owns 100% of BASF Fibres Inc.

## BAYER A.G. (WEST GERMANY)

| | |
|---|---|
| Belgium | Bayer Antwerpen N.V. 100% |
| Germany, Fed. Rep. | Bayer A.G. 100% |
| | Faserwerke Lingen G.m.b.H. 100% |
| Peru | Bayer Industrial S.A. 60% |

## COURTAULDS, PLC (U.K.)

| | |
|---|---|
| France | Courtaulds S.A. 100% |
| Italy | Novaceta S.p.A. 50%; SNIA 50% |
| Spain | Courtaulds Fibres S.A. 100% |
| | INACSA 12%; public 88% |
| U.K. | Courtaulds Fibres Ltd. 100% |
| U.S.A./Canada | Courtaulds North America Inc. 100% |

## E. I. DU PONT DE NEMOURS & COMPANY (U.S.A.)

| | |
|---|---|
| Argentina | Ducilo 82%; Bunge & Born 18% |
| Brazil | Du Pont do Brasil 100% |
| Canada | Du Pont Canada 75%; public 25% |
| Germany, Fed. Rep. | Du Pont de Nemours (Deutschland) 100% |
| Japan | Toray-Dupont 50%; Toray Industries 50% |
| Luxembourg | Du Pont Fibres 100% |
| Mexico | Nylon de Mexico 40%; Alfa-Group 51%; public 9% |
| Netherlands | Du Pont de Nemours (Nederland) 100% |
| U.K. | Du Pont (U.K.) 100% |
| U.S.A. | Textile Fibers Department 100% |
| | Polymer Products Department 100% |

## ENICHEM FIBRE S.p.A. (ITALY)

| | |
|---|---|
| Italy | Carpol S.p.A. 100% |
| | Terbond S.p.A. 100% |

## FIRESTONE TIRE & RUBBER COMPANY (U.S.A.)

| | |
|---|---|
| Canada | Firestone Textiles Co. 100% |
| U.S.A. | Firestone Fibers & Textiles 100% |

## HARBOUR GROUP LTD. (U.S.A.)

| | |
|---|---|
| U.K. | Synthetic Industries (Ireland) PLC 100% |
| U.S.A. | Fibron Corp. of Tennessee 100% |
| | Synthetic Industries, Inc. 100% |
| | Synthetic Industries (Texas), Inc. 100% |

## HERCULES INCORPORATED (U.S.A.)

| | |
|---|---|
| Italy | Moplefan 50%; Montedison 50% |
| U.S.A. | Hercules 100% |

## HOECHST A.G. (WEST GERMANY)

| | |
|---|---|
| Austria | Austria Faserwerke; Hoechst Austria 51%; Lenzing 49% |
| Belgium | Hoechst Celanese 100% |
| Brazil | Hoechst Do Brasil Quimica e Farmaceutica S.A. 100% |
| Canada | Celanese Canada Inc. 56%; public 44% |
| Germany, Fed. Rep. | Hoechst A.G. 100% |
| | Zehlendorf 91%; others 9% |
| Mexico | Celanese Mexicana, S.A. 40%; public 60% |
| Portugal | Hoechst Portuguesa S.A.R.L. 100% |
| South Africa | Hoechst South Africa 100% |
| U.K. | Hoechst Fibre Industries 100% |
| U.S.A. | Hoechst Celanese Corporation 100% |

## IMPERIAL CHEMICAL INDUSTRIES LIMITED (U.K.)

| | |
|---|---|
| Germany, Fed. Rep. | ICI Europa Fibres G.m.b.H. 100% |
| India | Chemicals & Fibres of India Ltd. 55% |
| Pakistan | ICI Pakistan Manufacturers 70% |
| Portugal | Finicisa-Fibras 50%; Francisco Fino Ltd. 50% |
| South Africa | S.A. Nylon Spinners (through AECI Ltd.) 38% |
| Spain | Nurel S.A. 50%; local interests 50% |
| U.K. | ICI Fibres 100% |

## KURARAY CO., LTD. (JAPAN)

| | |
|---|---|
| Japan | Kuraray 100% |

## MITSUBISHI RAYON (JAPAN)

| | |
|---|---|
| Japan | Mitsubishi Acetate 100%<br>Mitsubishi Rayon 100% |
| Portugal | FISIPE 4%; Mitsubishi Corp. 9%; Quimigal 87% |
| Taiwan | Tong Hwa 19%; Mitsubishi Corp. 12%; others 69% |

## MONTEFIBRE S.p.A. (ITALY)

| | |
|---|---|
| Italy | Industrie Tessili Vercelli S.p.A. 100%<br>Società Industriale Cremonese S.p.A. 50%; others 50% |
| Spain | Montefibre Hispania S.A. 100% |

## OWENS-CORNING FIBERGLAS CORPORATION (U.S.A.)

| | |
|---|---|
| Belgium | Owens-Corning Fiberglas Europe 100% |
| Brazil | OCFIBRAS 100% |
| Canada | Fiberglas Canada 49%; Duplate Canada 49%; local interests 2% |
| France | Owens-Corning Fiberglas Europe 100% |
| Japan | Asahi Fiber Glass 28%; Asahi Glass Co., Ltd. 72% |
| Mexico | Vitro-Fibras 40%; Vitro Group 60% |
| Norway | Owens-Corning Fiberglas Europe 70%; Elkem-Spigerverket 30% |
| Spain | Owens-Corning Fiberglas Europe 100% |
| Sweden | Owens-Corning Fiberglas Europe 100% |
| U.S.A. | Owens-Corning Fiberglas 100% |

## PPG INDUSTRIES (U.S.A.)

| | |
|---|---|
| Netherlands | Silenka 33.33%; Akzo N.V. 33.33%; NOM 33.33% |
| U.S.A. | Fiber Glass Products 100% |

## PILKINGTON BROTHERS (U.K.)

| | |
|---|---|
| Argentina | VASA 99.7%; Glaverbel/Boussois/local interests 0.3% |
| India | Fibreglass Pilkington 50%, plus 1 share; Indian interests 50%, less 1 share |
| South Africa | Fibreglass South Africa 24.5%; Owens-Corning Fiberglas (U.S.A.) 24.5%; Plate Glass & Shatterprufe Industries Ltd. 51% |
| U.K. | Fibreglass PLC 100% |

## RHÔNE-POULENC S.A. (FRANCE)

| | |
|---|---|
| Argentina | Rhodia Argentina Química e Têxtil 100% |
| Brazil | Rhodia S.A. 100%; Rhodia Nordeste 99% |
| France | Rhône-Poulenc-Textile 99.9%; Rhône-Poulenc-Fibres 100%; Cellatex 100%; Rhovyl 100% |
| Germany, Fed. Rep. | Rhodia A.G. 100% |
| Spain | SAFA 60% |
| Switzerland | Viscosuisse (through Holva AG) 87% |

## SAINT-GOBAIN (FRANCE)

| | |
|---|---|
| France | Saint-Gobain Industries 100% |
| Germany, Fed. Rep. | Gevetex-Textilglas 100% |
| Italy | Vetrotex Italia 100% |
| Spain | Cristaleria Espanola S.A. 69% |
| U.S.A. | CertainTeed Corp. 55%; others 45% |

## SNIA FIBRE (ITALY)

| | |
|---|---|
| France | Ets. Nysam 100% |
| Italy | Novaceta 50%; Courtaulds (U.K.) 50%<br>Nuova Raion Italia S.p.A. 34.7%; others 65.3% |

## TEIJIN LTD. (JAPAN)

| | |
|---|---|
| Indonesia | P.T. Tifico 65.8%; Toyo Menka 16.5%; local interests 17.7% |
| Japan | Teijin 100%<br>Teijin Acetate 100% |
| Korea , Rep. of | Sunkyung Fibres 4.2%; local interests 95.8% |
| Thailand | Teijin Polyester 45%; local interests 55% |

## TORAY INDUSTRIES, INC. (JAPAN)

| | |
|---|---|
| Indonesia | P.T. Indonesia Toray Synthetics 59%; others 41% |
| Japan | Toray Industries 100%; Toray-Monofilament 100%; Toray-DuPont 50%, DuPont 50% |
| Korea, Rep. of | Cheil Synthetic Textiles 22.8%; others 77.2%<br>Kolon Industries 19.3%; others 80.7% |
| Malaysia | Penfibre SDN. Berhad 100% |
| Thailand | Toray Nylon Thai 30%; others 70% |

## WELLMAN, INC. (U.S.A.)

| | |
|---|---|
| Ireland | Wellman International 100% |
| U.S.A. | Man-Made Fiber Division 100% |

## TABLE 10:
## SELECTED U.S. MAN-MADE FIBER IMPORTS FOR CONSUMPTION BY COUNTRY OF ORIGIN
THOUSAND POUNDS

| ITEMS & COUNTRY | 1988 JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR TO DATE 1988 | 1987 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***CELLULOSIC YARN, MONOFIL & STRIPS*** | | | | | | | | | | | | | | |
| AUSTRIA | 0 | 0 | 0 | 0 | | | | | | | | | 0 | 181 |
| BRAZIL | 54 | 0 | 28 | 55 | | | | | | | | | 137 | 143 |
| CANADA | 426 | 481 | 507 | 292 | | | | | | | | | 1706 | 1291 |
| GERMANY, FED. REP. | 353 | 635 | 281 | 227 | | | | | | | | | 1496 | 1595 |
| JAPAN | 277 | 131 | 45 | 121 | | | | | | | | | 574 | 297 |
| MEXICO | 62 | 53 | 18 | 81 | | | | | | | | | 214 | 130 |
| NETHERLANDS | 190 | 229 | 228 | 289 | | | | | | | | | 936 | 396 |
| ALL OTHER COUNTRIES [a] | 11 | 1 | 21 | 67 | | | | | | | | | 100 | 5 |
| **TOTAL CELLULOSIC YARN** | **1373** | **1530** | **1128** | **1132** | | | | | | | | | **5163** | **4038** |
| ***CELLULOSIC STAPLE+TOW*** | | | | | | | | | | | | | | |
| CANADA | 1086 | 774 | 974 | 797 | | | | | | | | | 3631 | 4523 |
| ITALY | 34 | 73 | 19 | 0 | | | | | | | | | 126 | 198 |
| JAPAN | 99 | 0 | 91 | 46 | | | | | | | | | 236 | 413 |
| SWEDEN | 0 | 41 | 45 | 0 | | | | | | | | | 86 | 91 |
| UNITED KINGDOM | 57 | 0 | 79 | 54 | | | | | | | | | 190 | 148 |
| ALL OTHER COUNTRIES [b] | 28 | 0 | 10 | 51 | | | | | | | | | 89 | 74 |
| **TOTAL CELLULOSIC STAPLE+TOW** | **1304** | **888** | **1218** | **948** | | | | | | | | | **4358** | **5447** |
| ***NONCELLULOSIC YARN, MONOFIL & STRIPS*** | | | | | | | | | | | | | | |
| BELGIUM | 1436 | 1117 | 1665 | 894 | | | | | | | | | 5112 | 3904 |
| CANADA | 1448 | 1872 | 2220 | 2156 | | | | | | | | | 7696 | 6084 |
| CHINA, PRC | 0 | 10 | 1 | 0 | | | | | | | | | 11 | 94 |
| COSTA RICA | 606 | 570 | 654 | 533 | | | | | | | | | 2363 | 2475 |
| DENMARK | 0 | 0 | 0 | 0 | | | | | | | | | 0 | 93 |
| FRANCE | 767 | 588 | 716 | 338 | | | | | | | | | 2409 | 2678 |
| GERMANY, FED. REP. | 1074 | 1355 | 1968 | 1078 | | | | | | | | | 5475 | 9302 |
| IRELAND | 37 | 34 | 74 | 114 | | | | | | | | | 259 | 139 |
| ISRAEL | 388 | 309 | 123 | 304 | | | | | | | | | 1124 | 734 |
| ITALY | 761 | 811 | 177 | 1678 | | | | | | | | | 3427 | 4614 |
| JAPAN | 648 | 212 | 729 | 277 | | | | | | | | | 1866 | 2893 |
| KOREA, REP. OF | 3 | 23 | 33 | 63 | | | | | | | | | 122 | 104 |
| MEXICO | 1428 | 2004 | 1547 | 978 | | | | | | | | | 5957 | 7670 |
| NETHERLANDS | 49 | 42 | 26 | 31 | | | | | | | | | 148 | 527 |
| SINGAPORE | 81 | 41 | 44 | 19 | | | | | | | | | 185 | 183 |
| SWITZERLAND | 32 | 0 | 5 | 11 | | | | | | | | | 48 | 321 |
| TAIWAN | 12 | 26 | 12 | 53 | | | | | | | | | 103 | 162 |
| UNITED KINGDOM | 676 | 753 | 220 | 632 | | | | | | | | | 2281 | 3069 |
| ALL OTHER COUNTRIES [c] | 172 | 234 | 201 | 406 | | | | | | | | | 1013 | 556 |
| **TOTAL NONCELLULOSIC YARN** | **9618** | **10001** | **10415** | **9565** | | | | | | | | | **39599** | **45602** |
| ***NONCELLULOSIC STAPLE+TOW*** | | | | | | | | | | | | | | |
| AUSTRIA | 601 | 727 | 752 | 1321 | | | | | | | | | 3401 | 386 |
| BELGIUM | 35 | 0 | 18 | 18 | | | | | | | | | 71 | 93 |
| BRAZIL | 0 | 0 | 0 | 499 | | | | | | | | | 499 | 1053 |
| CANADA | 2003 | 2183 | 2981 | 2221 | | | | | | | | | 9388 | 11645 |
| FRANCE | 934 | 799 | 800 | 957 | | | | | | | | | 3490 | 2660 |
| GERMANY, FED. REP. | 2738 | 3040 | 2503 | 2478 | | | | | | | | | 10759 | 9602 |
| IRELAND | 80 | 123 | 162 | 325 | | | | | | | | | 690 | 109 |
| ISRAEL | 8 | 0 | 0 | 56 | | | | | | | | | 64 | 93 |
| ITALY | 130 | 362 | 145 | 241 | | | | | | | | | 878 | 7133 |
| JAPAN | 1963 | 2057 | 1894 | 2166 | | | | | | | | | 8080 | 8133 |
| KOREA, REP. OF | 1355 | 1516 | 1456 | 1580 | | | | | | | | | 5907 | 3151 |
| MALAYSIA | 0 | 95 | 48 | 48 | | | | | | | | | 191 | 238 |
| MEXICO | 303 | 549 | 210 | 502 | | | | | | | | | 1564 | 5426 |
| ROMANIA | 448 | 0 | 86 | 664 | | | | | | | | | 1198 | 1108 |
| SWITZERLAND | 102 | 21 | 153 | 189 | | | | | | | | | 465 | 510 |
| TAIWAN | 1986 | 1109 | 1425 | 1112 | | | | | | | | | 5632 | 7388 |
| UNITED KINGDOM | 1604 | 1503 | 2175 | 1920 | | | | | | | | | 7202 | 4843 |
| ALL OTHER COUNTRIES [d] | 52 | 30 | 48 | 48 | | | | | | | | | 178 | 244 |
| **TOTAL NONCELLULOSIC STAPLE+TOW** | **14342** | **14114** | **14856** | **16345** | | | | | | | | | **59657** | **63815** |

\+ Less than 1 thousand pounds.

a. Morocco 46, United Kingdom 20, Singapore 18, Korea, Rep. of 11, Italy 4, Taiwan 1, France.

b. France 61, Australia 25, Germany, Fed. Rep. of 2, Belgium 1.

c. Romania 270, Brazil 206, Spain 146, Chile 133, Sweden 102, Australia 62, Argentina 56, Turkey 30, Austria 7, Vatican City 1, Greece, India.

d. Australia 93, Netherlands 40, Hong Kong 29, Spain 7, China, PRC 5, Egypt 3, Portugal 1, Philippines.

# TABLE 11:
# U.S. MAN-MADE FIBER IMPORTS FOR CONSUMPTION
## THOUSAND P[illegible]

| ITEM | COMMODITY NUMBER AS OF 1/1/87 | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR TO DATE 1988 | YEAR TO DATE 1987 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***CELLULOSIC FIBER*** | | | | | | | | | | | | | | | |
| YARN - SINGLES | | | | | | | | | | | | | | | |
| TEXTURED | 310.0106 & .0206 | 0 | + | 0 | 64 | | | | | | | | | 64 | 213 |
| OTHER | 310.0130 & .0230 a | 1362 | 1468 | 1021 | 995 | | | | | | | | | 4846 | 3819 |
| MONOFILAMENTS | 309.0310 & .0610 | 0 | + | 0 | 1 | | | | | | | | | 1 | 5 |
| STRIPS, $1/LB & UNDER | 309.2000* | 11 | 62 | 107 | 72 | | | | | | | | | 252 | 1 |
| **SUBTOTAL ABOVE** | | **1373** | **1530** | **1128** | **1132** | | | | | | | | | **5163** | **4038** |
| STAPLE | 309.4326 & .4325 | 1182 | 890 | 1107 | 934 | | | | | | | | | 4111 | 5174 |
| GROUPED FILAMENTS | 309.3010 & .3310 | 122 | 0 | 111 | 14 | | | | | | | | | 247 | 273 |
| **SUBTOTAL ABOVE** | | **1304** | **890** | **1218** | **948** | | | | | | | | | **4358** | **5447** |
| **WASTE, ADVANCED&NOT ADVANCED** | 309.6615 & .7510 | 0 | + | 0 | 0 | | | | | | | | | + | 7 |
| ***NONCELLULOSIC FIBER*** | | | | | | | | | | | | | | | |
| YARN - SINGLES | | | | | | | | | | | | | | | |
| TEXTURED - NYLON | | | | | | | | | | | | | | | |
| LESS THAN 450 DENIER | 310.0107 & .0207 | 341 | 297 | 204 | 271 | | | | | | | | | 1113 | 541 |
| 450 DENIER AND OVER | 310.0108 & .0208 | 1503 | 1643 | 1531 | 2018 | | | | | | | | | 6695 | 11825 |
| - POLYESTER | 310.0110 & .0210 | 989 | 1368 | 1024 | 881 | | | | | | | | | 4262 | 6312 |
| - OTHER | 310.0114 & .0214 | 2158 | 1830 | 2815 | 1920 | | | | | | | | | 8723 | 6582 |
| OTHER - NYLON | 310.0149 & .0249 | 1154 | 1567 | 1602 | 1249 | | | | | | | | | 5572 | 8827 |
| - POLYESTER | 310.0150 & .0250 | 2153 | 1631 | 1734 | 1657 | | | | | | | | | 7175 | 7339 |
| - OTHER | 310.0170 & .0270 b | 762 | 1085 | 876 | 922 | | | | | | | | | 3645 | 2221 |
| MONOFILAMENTS | 309.0200 & .0330 c | 381 | 384 | 307 | 374 | | | | | | | | | 1446 | 1081 |
| STRIPS, OVER $1/LB | 309.2100 & .2500* | 177 | 196 | 322 | 273 | | | | | | | | | 968 | 874 |
| **SUBTOTAL ABOVE** | | **9618** | **10001** | **10415** | **9565** | | | | | | | | | **39599** | **45602** |
| STAPLE - NYLON | 309.4331 & .4351 | 1696 | 1306 | 1913 | 2115 | | | | | | | | | 7032 | 18330 |
| - POLYESTER | 309.4336 & .4361 | 4653 | 5670 | 4716 | 4932 | | | | | | | | | 19971 | 20320 |
| - ACRYLIC | 309.4366 | 1214 | 953 | 1179 | 1399 | | | | | | | | | 4745 | 4542 |
| - OLEFIN | 309.4371 | 83 | 104 | 534 | 498 | | | | | | | | | 1219 | 235 |
| - OTHER | 309.4341 & .4390 | 1350 | 1625 | 1750 | 2008 | | | | | | | | | 6733 | 3627 |
| GROUPED FILAMENTS | | | | | | | | | | | | | | | |
| NYLON | 309.3030 & .3200 | 3713 | 2877 | 3289 | 3284 | | | | | | | | | 13163 | 10327 |
| POLYESTER | 309.3040 & .3340 | 441 | 215 | 65 | 421 | | | | | | | | | 1142 | 1470 |
| ACRYLIC | 309.3050 & .3350 | 1086 | 1331 | 1249 | 1664 | | | | | | | | | 5330 | 4368 |
| OTHER | 309.3065 & .3365 | 106 | 33 | 159 | 24 | | | | | | | | | 322 | 596 |
| **SUBTOTAL ABOVE** | | **14342** | **14114** | **14856** | **16345** | | | | | | | | | **59657** | **63815** |
| WASTE, NOT ADVANCED | | | | | | | | | | | | | | | |
| - NYLON | 309.6625 | 2940 | 1991 | 1933 | 1842 | | | | | | | | | 8706 | 9015 |
| - POLYESTER | 309.6630 | 550 | 487 | 1073 | 637 | | | | | | | | | 2747 | 4242 |
| - ACRYLIC | 309.6645 | 0 | 0 | 21 | 110 | | | | | | | | | 131 | 91 |
| - OTHER | 309.6660 | 221 | 273 | 392 | 157 | | | | | | | | | 1043 | 2158 |
| NOILS & GARNETTED FIBERS | 309.7000* | 80 | 0 | 0 | 33 | | | | | | | | | 113 | 0 |
| OTHER WASTE, ADVANCED | 309.7525 - .7555 | 596 | 596 | 637 | 323 | | | | | | | | | 2152 | 900 |
| **SUBTOTAL ABOVE** | | **4387** | **3347** | **4056** | **3102** | | | | | | | | | **14892** | **16406** |
| **TOTAL MAN-MADE ABOVE** | | **31024** | **29882** | **31673** | **31092** | | | | | | | | | **123669** | **135315** |
| ***OTHER MAN-MADE FIBER TOPS, YARN & THREAD*** | | | | | | | | | | | | | | | |
| YARN - PLIED | | | | | | | | | | | | | | | |
| TEXTURED - CELLULOSIC | 310.1506 | 0 | 0 | + | 0 | | | | | | | | | + | + |
| - NONCELLULOSIC | 310.1015 d & .1205 e | 340 | 110 | 184 | 216 | | | | | | | | | 850 | 1399 |
| OTHER - CELLULOSIC | 310.1030 & .1535 f | 15 | 21 | 5 | 34 | | | | | | | | | 75 | 213 |
| - NONCELLULOSIC | 310.1050 & .1070 g | 276 | 262 | 305 | 289 | | | | | | | | | 1132 | 1266 |
| SPUN YARN - CELLULOSIC | 310.4005 & .4030 h | 62 | 95 | 137 | 23 | | | | | | | | | 317 | 562 |
| - OTHER | 310.4015 & .4027 i | 2503 | 1471 | 1826 | 1155 | | | | | | | | | 6955 | 13186 |
| OTHER YARNS - NES, INCL. CHENILLE | 310.6034 - .8000 | 2122 | 1933 | 1143 | 1956 | | | | | | | | | 7154 | 6799 |
| HANDWORK & SEWING THREAD | 310.9000 & .9310 j | 607 | 197 | 1714 | 585 | | | | | | | | | 3103 | 2920 |
| SLIVER, TOPS & ROVING | 309.9000 | 271 | 287 | 351 | 530 | | | | | | | | | 1439 | 1550 |
| GLASS FIBER | 309.2800 & .2900 k | 2526 | 2716 | 404 | 2483 | | | | | | | | | 8129 | 7237 |
| **GRAND TOTAL ABOVE** | | **39746** | **36974** | **37742** | **38363** | | | | | | | | | **152823** | **170447** |

**SOURCE:** U.S. Census Bureau Report IM145X.

**NES** Not elsewhere specified.

\+ Less than 1 thousand pounds.

* These items are not reported by the Census as cellulosic vs. noncellulosic. Separation of cellulosic and noncellulosic quantities are estimated, based primarily on average declared value.

a. Also includes 310.0610.

b. Also includes 310.0530, .0550, .0630 & .0650.

c. Also includes 309.0340, .0365, .0500, .0630, .0640 & .0665.

d. There may be some acetate yarn in these data, but the Census figures do not permit a segregation.

e. Also includes 310.1210.

f. Also includes 310.2110.

g. Also includes 310.1510, .1514, .1550, 1555, .1570, .2050, .2130 & .2150.

h. Also includes 310.5005 & .5030.

i. Also includes 310.4046, .4047, .4050, .5015, .5046, .5047, .5049 & .5051.

j. Also includes 310.9320 & .9500.

k. Chiefly roving. Also includes 309.9800 & .9900.

# TABLE 12:
# U.S. EXPORTS OF MAN-MADE FIBER
## THOUSAND POUNDS

| ITEM | COMMODITY NUMBER AS OF 1/1/87 | 1988 JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR TO DATE 1988 | 1987 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***CELLULOSIC FIBER*** | | | | | | | | | | | | | | | |
| FILAMENT YARN [a] | | | | | | | | | | | | | | | |
| TEXTURED | 310.0004 | 27 | 2 | 6 | 31 | | | | | | | | | 66 | 268 |
| OTHER [b] | 310.0026 | 683 | 991 | 556 | 1220 | | | | | | | | | 3450 | 1947 |
| MONOFILAMENTS | 309.0110 | 89 | 36 | 5 | 36 | | | | | | | | | 166 | 2 |
| STRIPS | 309.2210 | 0 | 23 | 0 | 0 | | | | | | | | | 23 | 44 |
| **SUBTOTAL ABOVE** | | **799** | **1052** | **567** | **1287** | | | | | | | | | **3705** | **2261** |
| STAPLE+TOW-RAYON | 309.4222 | 1019 | 1907 | 1702 | 1468 | | | | | | | | | 6096 | 11474 |
| STAPLE-ACETATE | 309.4219 | 89 | 66 | 309 | 329 | | | | | | | | | 793 | 413 |
| **SUBTOTAL ABOVE** | | **1108** | **1973** | **2011** | **1797** | | | | | | | | | **6889** | **11887** |
| **WASTE, ADVANCED&NOT ADVANCED** | 309.7400 | **143** | **251** | **198** | **86** | | | | | | | | | **678** | **581** |
| ***NONCELLULOSIC FIBER*** | | | | | | | | | | | | | | | |
| YARN - SINGLES | | | | | | | | | | | | | | | |
| NYLON - TEXTURED | 310.0005 & .0007 | 3651 | 4775 | 4929 | 3355 | | | | | | | | | 16710 | 9738 |
| - HIGH TENACITY [c] | 310.0027 | 8372 | 8470 | 8040 | 6580 | | | | | | | | | 31462 | 25805 |
| - OTHER | 310.0029 | 786 | 1111 | 2189 | 1186 | | | | | | | | | 5272 | 2678 |
| POLYESTER - TEXTURED | 310.0010 | 1739 | 2796 | 3405 | 2979 | | | | | | | | | 10919 | 10718 |
| - HIGH TENACITY [c] | 310.0032 | 1421 | 1817 | 2189 | 2281 | | | | | | | | | 7708 | 7387 |
| - OTHER [d] | 310.0034 | 207 | 225 | 265 | 284 | | | | | | | | | 981 | 620 |
| OTHER - TEXTURED | 310.0014 | 1067 | 1904 | 2220 | 1725 | | | | | | | | | 6916 | 5074 |
| - OLEFIN | 310.0040 | 83 | 626 | 121 | 143 | | | | | | | | | 973 | 217 |
| - OTHER | 310.0044 | 360 | 729 | 886 | 802 | | | | | | | | | 2777 | 2368 |
| MONOFILAMENTS, ALL DENIERS | | | | | | | | | | | | | | | |
| NYLON | 309.0120 | 658 | 728 | 515 | 983 | | | | | | | | | 2884 | 2161 |
| POLYESTER | 309.0140 | 1641 | 1789 | 2345 | 1784 | | | | | | | | | 7559 | 1956 |
| OTHER | 309.0170 | 680 | 901 | 768 | 769 | | | | | | | | | 3118 | 2325 |
| STRIPS | 309.2220 & .2270 | 415 | 192 | 277 | 442 | | | | | | | | | 1326 | 1495 |
| **SUBTOTAL ABOVE** | | **21080** | **26063** | **28149** | **23313** | | | | | | | | | **98605** | **72542** |
| STAPLE - NYLON | 309.4240 | 2423 | 1511 | 1760 | 981 | | | | | | | | | 6675 | 7877 |
| - POLYESTER | 309.4242 | 13519 | 7586 | 10316 | 10132 | | | | | | | | | 41553 | 66907 |
| - ACRYLIC | 309.4245 | 17224 | 11389 | 16118 | 7723 | | | | | | | | | 52454 | 13118 |
| - OLEFIN | 309.4246 | 1488 | 1604 | 2696 | 2137 | | | | | | | | | 7925 | 8626 |
| - OTHER | 309.4247 | 1228 | 1696 | 3193 | 1951 | | | | | | | | | 8068 | 9184 |
| GROUPED FILAMENTS | | | | | | | | | | | | | | | |
| NYLON | 309.3220 | 693 | 497 | 469 | 339 | | | | | | | | | 1998 | 1681 |
| POLYESTER [d] | 309.3240 | 2108 | 1330 | 2067 | 794 | | | | | | | | | 6299 | 7669 |
| ACRYLIC | 309.3250 & .3255 | 4966 | 3683 | 3809 | 2267 | | | | | | | | | 14725 | 7645 |
| **SUBTOTAL ABOVE** | | **43649** | **29296** | **40428** | **26324** | | | | | | | | | **139697** | **122707** |
| WASTE, ADVANCED&NOT ADVANCED | | | | | | | | | | | | | | | |
| - NYLON | 309.7620 | 685 | 1210 | 1189 | 1492 | | | | | | | | | 4576 | 4423 |
| - POLYESTER | 309.7630 | 3959 | 4435 | 6616 | 4231 | | | | | | | | | 19241 | 18352 |
| - ACRYLIC | 309.7640 | 312 | 1219 | 923 | 676 | | | | | | | | | 3130 | 4425 |
| - OTHER | 309.7650 | 3765 | 3582 | 3138 | 3474 | | | | | | | | | 13959 | 12841 |
| **SUBTOTAL ABOVE** | | **8721** | **10446** | **11866** | **9873** | | | | | | | | | **40906** | **40041** |
| **TOTAL MAN-MADE ABOVE** | | **75500** | **69081** | **83219** | **62680** | | | | | | | | | **290480** | **250019** |
| GLASS FIBER | 309.2700 & .9700 | 8813 | 9352 | 9114 | 8934 | | | | | | | | | 36213 | 27002 |
| **GRAND TOTAL ABOVE** | | **84313** | **78433** | **92333** | **71614** | | | | | | | | | **326693** | **277021** |

**SOURCE:** U.S. Census Bureau Report EM522.

+ Less than 1 thousand pounds.

a. Includes thrown, singles and plied yarn.

b. Includes rayon tire cord and cord fabric.

c. Includes noncellulosic tire cord and cord fabric.

d. Includes zero twist yarns.

# TABLE 13:
# FILAMENT YARN DOMESTIC SHIPMENTS[a]

**MILLION POUNDS**

| ITEM | | ANNUAL DATA | | | | QUARTERLY DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1987 | | | | 1988 | | | |
| | | 1984 | 1985 | 1986 | 1987 | 1ST Q | 2ND Q | 3RD Q | 4TH Q | 1ST Q | 2ND Q | 3RD Q | 4TH Q |
| *(C) CELLULOSIC YARN*[j] | | *(N) NYLON* | | | | *(P) POLYESTER* | | | | *(O) OLEFIN* | | | |
| HOSIERY[b] | N | 101.5 | 98.1 | 95.1 | 93.2 | 23.6 | 23.5 | 23.8 | 22.3 | 22.7 | | | |
| OTHER CIRCULAR KNIT[c] | N | 17.6 | 12.9 | 21.3 | 25.3 | 7.7 | 7.0 | 6.1 | 4.5 | 7.1 | | | |
| | P | 174.7 | 151.2 | 150.3 | 102.8 | 21.1 | 28.8 | 27.3 | 25.6 | 25.6 | | | |
| | C | 2.3 | 2.6 | 2.0 | 1.1 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | | | |
| FLAT KNIT | C | 67.2 | 53.0 | 47.8 | 27.9 | 8.7 | 8.1 | 5.0 | 6.1 | 5.7 | | | |
| | N | 135.2 | 143.6 | 133.8 | 131.4 | 32.0 | 32.6 | 33.2 | 33.6 | 31.2 | | | |
| | P | 137.3 | 160.8 | 167.1 | 162.5 | 37.5 | 40.6 | 41.3 | 43.1 | 39.2 | | | |
| CARPET FACE | N | 770.2 | 815.4 | 881.4 | 916.0 | 228.5 | 235.4 | 246.1 | 206.0 | 228.2 | | | |
| | O | 154.1 | 202.1 | 215.7 | 244.5 | 58.4 | 60.8 | 63.0 | 62.3 | 65.1 | | | |
| CARPET BACKING[d] | O | 227.8 | 354.6 | 404.1 | 425.3 | 98.1 | 106.9 | 110.2 | 110.1 | 107.9 | | | |
| OTHER BROAD WOVEN[e] | C | 108.8 | 111.3 | 126.3 | 122.8 | 26.3 | 31.7 | 31.4 | 33.4 | 31.0 | | | |
| | N | 90.7 | 71.4 | 76.2 | 79.4 | 17.7 | 19.6 | 21.4 | 20.7 | 19.9 | | | |
| | P | 392.2 | 420.1 | 344.4 | 379.4 | 94.7 | 97.0 | 91.8 | 95.9 | 80.8 | | | |
| | O | 190.3 | 225.7 | 271.5 | 317.7 | 68.9 | 77.1 | 80.3 | 91.4 | 84.9 | | | |
| NARROW WOVEN[f] | C | 0.7 | 1.5 | 2.0 | 2.2 | 0.4 | 0.4 | 0.4 | 1.0 | 1.5 | | | |
| | N | 39.9 | 31.1 | 33.9 | 42.1 | 10.2 | 11.3 | 10.6 | 10.0 | 11.1 | | | |
| | P | 38.7 | 40.0 | 44.0 | 66.2 | 12.7 | 17.1 | 18.7 | 17.7 | 15.2 | | | |
| | O | 14.9 | 15.2 | 17.5 | 17.7 | 4.1 | 3.6 | 4.6 | 5.4 | 4.7 | | | |
| TIRES, INCL. CHAFER[g] | N | 172.9 | 146.0 | 134.2 | 143.0 | 38.8 | 32.5 | 35.9 | 35.8 | 34.8 | | | |
| | P | 174.4 | 155.5 | 159.3 | 162.8 | 40.1 | 40.5 | 40.9 | 41.3 | 41.3 | | | |
| OTHER RUBBER INDUSTRY[c,g] | N | 20.9 | 15.3 | 15.2 | 16.4 | 3.8 | 4.4 | 4.0 | 4.2 | 6.1 | | | |
| | P | 32.7 | 31.2 | 27.2 | 34.5 | 8.6 | 8.8 | 8.7 | 8.4 | 6.7 | | | |
| ROPE, CORDAGE & FISHLINE | N | 35.0 | 35.3 | 36.4 | 37.9 | 9.2 | 9.8 | 10.4 | 8.5 | 9.7 | | | |
| | P | 15.7 | 13.8 | 13.0 | 13.4 | 3.4 | 3.1 | 3.5 | 3.4 | 3.7 | | | |
| | O | 106.9 | 108.2 | 106.3 | 106.7 | 25.0 | 28.2 | 24.5 | 29.0 | 27.9 | | | |
| ALL OTHER[h] | C | 1.1 | 18.7 | 14.0 | 12.8 | 3.4 | 3.1 | 3.2 | 3.1 | 3.0 | | | |
| | N | 54.2 | 48.3 | 52.1 | 69.6 | 17.8 | 18.7 | 14.3 | 18.8 | 17.6 | | | |
| | P | 179.2 | 231.7 | 187.1 | 191.8 | 48.7 | 49.3 | 48.6 | 45.2 | 45.2 | | | |
| | O | 31.6 | 31.8 | 34.1 | 23.6 | 7.0 | 5.2 | 4.9 | 6.5 | 7.8 | | | |
| **TOTAL ABOVE** | **C** | **180.1** | **187.1** | **192.1** | **166.8** | **39.2** | **43.6** | **40.2** | **43.8** | **41.4** | | | |
| | **N** | **1438.1** | **1417.4** | **1479.6** | **1554.3** | **389.3** | **394.8** | **405.8** | **364.4** | **388.4** | | | |
| | **P** | **1144.9** | **1204.2** | **1092.4** | **1113.4** | **266.8** | **285.2** | **280.8** | **280.6** | **266.7** | | | |
| | **O** | **725.6** | **937.6** | **1049.2** | **1135.5** | **261.5** | **281.8** | **287.5** | **304.7** | **298.3** | | | |
| **TOTAL DOMESTIC** | | **3488.7** | **3746.3** | **3813.3** | **3970.0** | **956.8** | **1005.4** | **1014.3** | **993.5** | **994.8** | | | |
| *ALSO DIVIDED AS* | | | | | | | | | | | | | |
| *APPAREL* | | *1072.1* | *1064.7* | *949.4* | *932.3* | *225.7* | *248.1* | *230.6* | *227.9* | *222.6* | | | |
| *HOME FURNISHINGS* | | *1354.2* | *1624.9* | *1746.8* | *1836.3* | *442.0* | *467.1* | *482.5* | *444.7* | *463.0* | | | |
| *INDUSTRIAL* | | *1062.4* | *1056.7* | *1117.1* | *1201.4* | *289.1* | *290.2* | *301.2* | *320.9* | *309.2* | | | |
| **SHIPMENTS OF FEED & PRODUCER-TEXTURED YARN (NONCARPET)**[i] | | | | | | | | | | | | | |
| NYLON | | 118.7 | 114.9 | 115.8 | NA | NA | NA | NA | NA | NA | | | |
| POLYESTER | | 675.5 | 776.3 | 634.6 | 626.3 | 149.3 | 165.8 | 156.1 | 155.1 | 146.7 | | | |
| OLEFIN | | 23.3 | 22.3 | 22.9 | 26.6 | 6.1 | 6.9 | 6.0 | 7.6 | 6.4 | | | |

**NA** No longer available.

**a.** Filament yarn plus monofilament shipments by primary trade or end use; olefin includes spunbonded polypropylene but does not include spunbonded polyethylene.

**b.** Small quantities of polyester and cellulosic yarn are included in All Other.

**c.** Small quantities of olefin are included in All Other.

**d.** Small quantities of nylon and polyester are included in All Other.

**e.** Other Broad Woven except carpets, tire fabric, flat belting, etc.

**f.** Narrow Woven includes apparel ribbons and braids, auto seat belts and/or furniture webbing.

**g.** Cellulosic yarn quantities included in All Other.

**h.** All Other includes sewing thread and other industrial applications. The olefin quantities include sliver knit backing. Also includes indirect exports.

**i.** These quantities are included in the Total Domestic area above.

**j.** Data for 1984 contain acetate yarn only. Data for 1985-1988 contain acetate and rayon yarn.

# TABLE 14:
# STAPLE+TOW DOMESTIC SHIPMENTS

**MILLION POUNDS**

| ITEM | | ANNUAL DATA | | | | QUARTERLY DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1987 | | | | 1988 | | | |
| | | 1984 | 1985 | 1986 | 1987 | 1ST Q | 2ND Q | 3RD Q | 4TH Q | 1ST Q | 2ND Q | 3RD Q | 4TH Q |
| *(R) RAYON* | *(N) NYLON* | *(A) ACRYLIC+MODACRYLIC* | | | | *(P) POLYESTER* | | | | *(O) OLEFIN* | | | |
| HOSIERY, SWEATERS & CRAFT YARNS[a] | A | 204.8 | 197.2 | 228.8 | 192.4 | 57.0 | 51.4 | 44.6 | 39.4 | 47.5 | | | |
| | NPR | 6.6 | 5.5 | 5.1 | 3.5 | 0.8 | 0.8 | 0.9 | 1.0 | 0.8 | | | |
| PILE FABRICS[b] | A | 30.0 | 24.5 | 23.2 | 20.8 | 5.6 | 5.7 | 5.1 | 4.4 | 5.0 | | | |
| | P | 18.4 | 14.9 | 15.0 | 19.7 | 4.4 | 5.1 | 6.2 | 4.0 | 3.9 | | | |
| OTHER CIRCULAR KNIT + FLAT KNIT[c] | R | 4.3 | 5.5 | 4.7 | 3.7 | 1.2 | 1.3 | 0.6 | 0.6 | 0.5 | | | |
| | A | 118.5 | 139.1 | 196.3 | 185.1 | 55.7 | 53.8 | 42.9 | 32.7 | 37.8 | | | |
| | P | 283.0 | 295.5 | 367.8 | 453.3 | 115.2 | 117.6 | 106.3 | 114.2 | 109.9 | | | |
| BLANKETS[b] | A | 25.2 | 30.2 | 26.7 | 25.7 | 5.9 | 6.6 | 7.6 | 5.6 | 6.4 | | | |
| | P | 5.5 | 6.2 | 3.7 | 9.2 | 1.3 | 1.8 | 2.8 | 3.3 | 1.8 | | | |
| OTHER BROAD WOVEN | R | 177.7 | 174.9 | 218.0 | 230.7 | 52.9 | 55.2 | 59.9 | 62.7 | 58.7 | | | |
| | N | 42.5 | 37.4 | 37.0 | 38.7 | 9.2 | 8.1 | 11.1 | 10.3 | 8.1 | | | |
| | A | 29.5 | 38.2 | 35.3 | 41.7 | 9.9 | 10.9 | 10.1 | 10.8 | 10.4 | | | |
| | P | 1039.1 | 864.9 | 885.6 | 839.2 | 205.3 | 218.1 | 202.9 | 212.9 | 216.0 | | | |
| | O | 22.1 | 26.9 | 18.0 | 20.2 | 4.8 | 4.7 | 5.5 | 5.2 | 4.6 | | | |
| CARPET FACE YARNS[f] | R | 0.3 | 0.5 | 0.4 | + | + | + | 0 | 0 | 0.2 | | | |
| | N | 751.0 | 773.9 | 837.8 | 905.1 | 230.2 | 239.3 | 230.6 | 205.0 | f | | | |
| | P | 131.4 | 126.8 | 145.0 | 209.0 | 46.8 | 50.7 | 51.4 | 60.1 | 66.1 | | | |
| | O | 96.5 | 107.4 | 117.2 | 116.2 | 24.3 | 28.9 | 31.5 | 31.5 | 30.3 | | | |
| FIBERFILL[d] | P | 276.1 | 281.1 | 294.9 | 348.6 | 88.9 | 80.7 | 83.6 | 95.4 | 82.1 | | | |
| FLOCK | NP | 9.2 | 5.3 | 5.9 | 5.5 | 1.6 | 1.0 | 1.3 | 1.6 | 1.6 | | | |
| | R | 2.7 | 1.8 | 1.8 | 0.9 | 0.5 | 0.4 | 0 | 0 | + | | | |
| NONWOVENS[e,f] | R | 126.3 | 113.5 | 125.4 | 124.4 | 31.1 | 28.6 | 31.8 | 32.9 | 35.4 | | | |
| | N | 2.8 | 2.5 | 2.1 | 1.9 | 0.4 | 0.4 | 0.5 | 0.6 | 0.4 | | | |
| | P | 177.2 | 162.5 | 175.3 | 204.2 | 48.7 | 47.7 | 51.4 | 56.4 | 63.1 | | | |
| | [g] VINYON+O | 119.2 | 135.8 | 166.2 | 198.0 | 49.4 | 50.4 | 47.8 | 50.4 | 46.0 | | | |
| ALL OTHER | R | 18.8 | 25.9 | 20.8 | 22.7 | 6.0 | 5.3 | 5.4 | 6.0 | 6.9 | | | |
| | N | 9.4 | 11.2 | 11.9 | 14.8 | 4.6 | 4.4 | 2.8 | 3.0 | 229.0 | | | |
| | A | 38.7 | 29.5 | 20.9 | 13.6 | 5.3 | 3.2 | 2.5 | 2.6 | 1.9 | | | |
| | P | 56.2 | 116.9 | 108.3 | 115.0 | 23.3 | 27.6 | 32.1 | 32.0 | 19.7 | | | |
| | [g] VINYON+O | 3.1 | 9.6 | 11.3 | 6.7 | 2.6 | 1.7 | 1.3 | 1.1 | 2.9 | | | |
| **TOTAL ABOVE** | **R** | **331.9** | **323.7** | **373.0** | **383.1** | **91.8** | **91.0** | **97.9** | **102.4** | **101.9** | | | |
| | **N** | **814.4** | **830.3** | **894.9** | **966.0** | **246.2** | **253.2** | **246.2** | **220.4** | **238.8** | | | |
| | **A** | **446.7** | **458.7** | **531.2** | **479.3** | **139.4** | **131.6** | **112.8** | **95.5** | **109.0** | | | |
| | **P** | **1992.2** | **1872.7** | **1998.6** | **2201.0** | **534.4** | **549.9** | **537.5** | **579.2** | **563.5** | | | |
| | **[g] VINYON+O** | **240.9** | **279.7** | **312.7** | **341.1** | **81.1** | **85.7** | **86.1** | **88.2** | **83.8** | | | |
| **TOTAL DOMESTIC** | | **3826.1** | **3765.1** | **4110.4** | **4370.5** | **1092.9** | **1111.4** | **1080.5** | **1085.7** | **1097.0** | | | |
| *ALSO DIVIDED AS* | | | | | | | | | | | | | |
| *APPAREL* | | *1277.1* | *1255.0* | *1489.3* | *1479.9* | *386.0* | *388.9* | *351.3* | *353.7* | *355.8* | | | |
| *HOME FURNISHINGS* | | *1559.0* | *1536.9* | *1625.8* | *1755.8* | *425.1* | *450.6* | *448.3* | *431.8* | *453.5* | | | |
| *INDUSTRIAL* | | *992.1* | *973.2* | *995.3* | *1134.8* | *281.8* | *271.9* | *280.9* | *300.2* | *287.7* | | | |

a. Olefin quantities are included in All Other.
b. Rayon and nylon quantities are included in All Other.
c. Nylon quantities are included in All Other.
d. Rayon, acrylic and nylon quantities are included in All Other.
e. Wet & dry laid and needled batts only.
f. Acrylic and nylon quantities are included in All Other.
g. 1987-1988 data exclude Vinyon.

# TABLE 15:
# SELECTED U.S. MONTHLY FIBER DATA

MILLION POUNDS

| ITEM | 1988 JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR TO DATE[a] 1988 | 1987 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MAN-MADE FIBER TOTAL SHIPMENTS[b,c]** | | | | | | | | | | | | | | |
| ***CELLULOSIC*** | | | | | | | | | | | | | | |
| YARN | 15.9 | 16.1 | 18.1 | 19.4 | 18.3 | | | | | | | | 87.8 | 76.8 |
| RAYON STAPLE | 32.6 | 35.9 | 38.5 | 35.5 | 36.4 | | | | | | | | 178.9 | 164.7 |
| **TOTAL CELLULOSIC** | **48.5** | **52.0** | **56.6** | **54.9** | **54.7** | | | | | | | | **266.7** | **241.5** |
| ***NONCELLULOSIC*** | | | | | | | | | | | | | | |
| **YARN+MONOFILAMENTS** | | | | | | | | | | | | | | |
| NYLON - INDUSTRIAL[d] | 27.5 | 32.1 | 34.8 | 32.2 | 30.8 | | | | | | | | 157.4 | 159.6 |
| - CARPET | 72.6 | 80.7 | 84.6 | 80.1 | 81.3 | | | | | | | | 399.3 | 395.7 |
| - TEXTILE[f] | 30.0 | 31.2 | 34.5 | 31.7 | 31.7 | | | | | | | | 159.1 | 158.9 |
| POLYESTER - INDUSTRIAL[d] | 26.5 | 29.3 | 30.7 | 31.3 | 29.4 | | | | | | | | 147.2 | 139.3 |
| - TEXTILE[f] | 62.9 | 68.4 | 67.7 | 73.0 | 71.6 | | | | | | | | 343.6 | 348.9 |
| OLEFIN[e] | 97.2 | 101.4 | 102.4 | 100.0 | 100.2 | | | | | | | | 501.2 | 444.5 |
| **TOTAL YARN** | **316.7** | **343.1** | **354.7** | **348.3** | **345.0** | | | | | | | | **1707.8** | **1646.9** |
| **STAPLE+TOW+FIBERFILL** | | | | | | | | | | | | | | |
| NYLON | 78.0 | 81.7 | 83.4 | 71.0 | 77.9 | | | | | | | | 392.0 | 431.3 |
| ACRYLIC+MODACRYLIC | 48.5 | 52.8 | 55.4 | 45.4 | 45.6 | | | | | | | | 247.7 | 257.6 |
| POLYESTER | 190.4 | 202.4 | 198.5 | 212.1 | 193.8 | | | | | | | | 997.2 | 971.1 |
| OLEFIN | 29.1 | 29.6 | 30.7 | 29.8 | 31.2 | | | | | | | | 150.4 | 149.1 |
| **TOTAL STAPLE** | **346.0** | **366.5** | **368.0** | **358.3** | **348.5** | | | | | | | | **1787.3** | **1809.1** |
| **TOTAL NONCELLULOSIC** | **622.7** | **709.6** | **722.7** | **706.6** | **693.5** | | | | | | | | **3495.1** | **3456.0** |
| **TOTAL MAN-MADE FIBER** | **711.2** | **761.6** | **779.3** | **761.5** | **748.2** | | | | | | | | **3761.8** | **3697.5** |
| **MAN-MADE FIBER END OF MONTH STOCK** | | | | | | | | | | | | | | |
| ***CELLULOSIC*** | | | | | | | | | | | | | | |
| YARN | 12.3 | 13.3 | 13.2 | 14.0 | 12.8 | | | | | | | | 12.8 | 14.7 |
| RAYON STAPLE | 23.5 | 22.5 | 20.3 | 18.0 | 16.5 | | | | | | | | 16.5 | 25.9 |
| **TOTAL CELLULOSIC** | **35.8** | **35.8** | **33.5** | **32.0** | **29.3** | | | | | | | | **29.3** | **40.6** |
| ***NONCELLULOSIC*** | | | | | | | | | | | | | | |
| **YARN+MONOFILAMENTS** | | | | | | | | | | | | | | |
| NYLON - INDUSTRIAL[d] | 26.6 | 25.7 | 23.5 | 23.3 | 25.2 | | | | | | | | 25.2 | 27.0 |
| - CARPET | 72.0 | 66.5 | 67.0 | 66.5 | 69.6 | | | | | | | | 69.6 | 48.3 |
| - TEXTILE[f] | 51.8 | 50.1 | 47.1 | 47.2 | 48.7 | | | | | | | | 48.7 | 47.6 |
| POLYESTER - INDUSTRIAL[d] | 29.8 | 29.2 | 28.8 | 29.6 | 30.5 | | | | | | | | 30.5 | 28.5 |
| - TEXTILE[f] | 82.5 | 81.5 | 79.5 | 77.3 | 79.7 | | | | | | | | 79.7 | 80.0 |
| OLEFIN[e] | 54.4 | 55.0 | 53.5 | 54.1 | 54.5 | | | | | | | | 54.5 | 56.0 |
| **TOTAL YARN** | **317.1** | **308.0** | **299.4** | **298.0** | **308.2** | | | | | | | | **308.2** | **287.4** |
| **STAPLE+TOW+FIBERFILL** | | | | | | | | | | | | | | |
| NYLON | 63.4 | 64.7 | 57.5 | 64.4 | 60.5 | | | | | | | | 60.5 | 56.4 |
| ACRYLIC+MODACRYLIC | 62.4 | 58.8 | 55.4 | 57.9 | 63.7 | | | | | | | | 63.7 | 71.6 |
| POLYESTER | 173.7 | 168.3 | 157.8 | 161.8 | 167.4 | | | | | | | | 167.4 | 171.7 |
| OLEFIN | 32.5 | 33.7 | 35.0 | 35.8 | 37.8 | | | | | | | | 37.8 | 30.8 |
| **TOTAL STAPLE** | **332.0** | **325.5** | **305.7** | **319.9** | **329.4** | | | | | | | | **329.4** | **330.5** |
| **TOTAL NONCELLULOSIC** | **649.1** | **633.5** | **605.1** | **617.9** | **637.6** | | | | | | | | **637.6** | **617.9** |
| **TOTAL MAN-MADE FIBER** | **684.9** | **669.3** | **638.6** | **649.9** | **666.9** | | | | | | | | **666.9** | **658.5** |
| **WOOL & COTTON CONSUMPTION** | | | | | | | | | | | | | | |
| APPAREL CLASS WOOL | 12.9 | 11.7 | 14.0 | 11.3 | | | | | | | | | 49.9 | 55.7 |
| CARPET CLASS WOOL | 1.4 | 1.5 | 1.6 | 1.3 | | | | | | | | | 5.8 | 4.1 |
| TOTAL RAW WOOL | 14.3 | 13.2 | 15.6 | 12.6 | | | | | | | | | 55.7 | 59.8 |
| RAW COTTON | 300.0 | 311.4 | 337.2 | 279.3 | | | | | | | | | 1227.9 | 1227.3 |

a. "Year to date" totals for stock, are the latest month's figures.
b. The monthly production of each fiber may be calculated as total shipments plus a stock increase, or less a stock decrease, over the month.
c. Producers' total domestic shipments plus export shipments.
d. Industrial is defined as 500 denier and coarser with an Instron tenacity of 7 grams or more per denier.
e. Olefin yarn+monofilaments also includes spunbonded polypropylene and film fiber produced for textile end uses.
f. Includes low denier industrial yarn.

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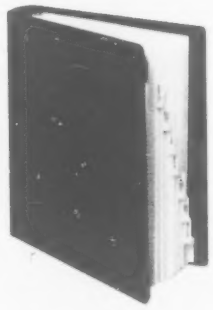

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- Rayon Staple
- Cellulosic Yarn
- Nylon
- Polyester
- Acrylic+Modacrylic
- Olefin

**With Additional Data for:**

- Textile Glass
- Olefin Yarn, Monofilament & Film Fiber
- Civil Engineering Fabric

## Covering All Noncellulosic and Cellulosic Fibers:

**Monthly**

- Production
- Domestic Shipments
- Exports
- Inventories
- Industrial Yarn
- Carpet Yarn
- Textile Yarn
- Flat Yarn
- Feed & Producer Textured Yarn
- Shipments by Denier
- Indirect Exports

**Quarterly**

- Production
- Domestic Shipments
- Imports
- Exports
- Shipments by Denier
- Inventories
- Primary End Use
- Secondary End Use
- Waste Shipments
- Civil Engineering Fabric Shipments

**Semiannually & Annually**

- Capacities
- Primary End Use Summaries
- Secondary End Use Summaries
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Roseland, New Jersey 07068
Telephone (201) 228-1107
FAX (201) 228-7598